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AUDIOVISUAL

GUIDE

October, 1959

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The Future Of Videotape - - *page 526*

Disaster Hits AV Center - - *page 533*

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EDUCATIONAL SCREEN AND

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GUIDE

October, 1959 Volume 38, Number 10, Whole Number 380

EDITORIAL

524 An Editorial Memorandum to Fifty Chief State School Officers

ARTICLES

526 Videotape — Its Promise for Education

533 Get AV Out of the Cellar! *John Borza*

536 Students Bring History to Light *Gilbert Hagerty*

543 Criteria for AV Equipment *Philip Fayen*

DEPARTMENTS AND FEATURES

514 On the Screen

518 Have You Heard? News About People, Organizations, Events

522 Calendar of Coming Events
The Art of Listening *Olwyn O'Connor*

523 With the Authors

546 Audio *Max U. Bildersee*

550 Filmstrips *Irene F. Cypher*

552 AV in the Church Field *William S. Hockman*

554 Film Evaluations *L. C. Larson, Carolyn Guss*

560 New Equipment and Materials

562 Trade Directory for the AV Field

568 Helpful Books

568 Trade News

570 Index to Advertisers

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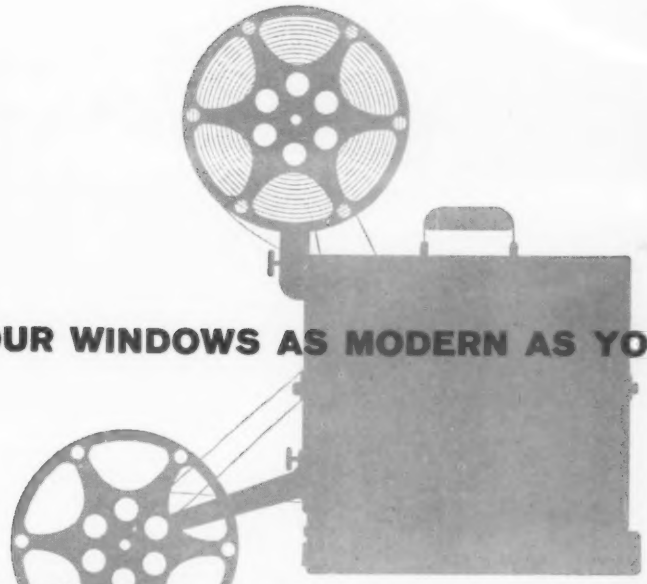

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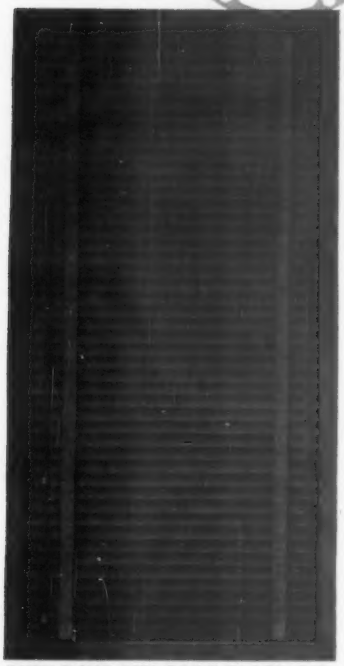

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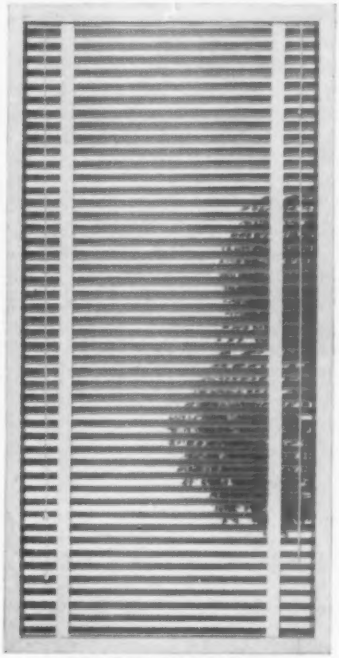

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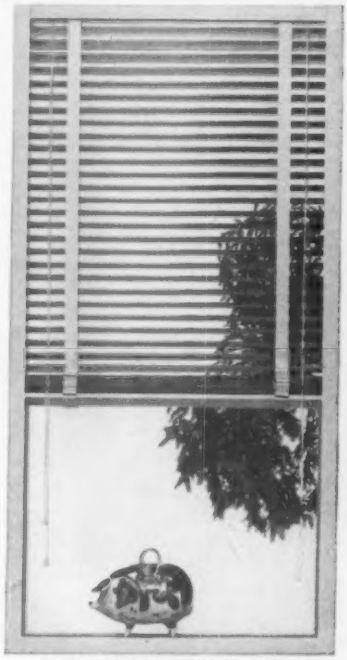

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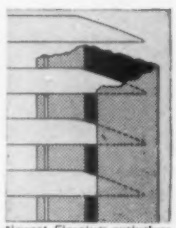

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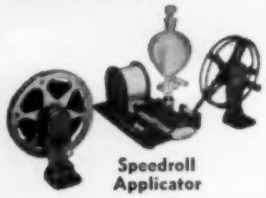

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On the Screen

Cover Scene

Ted Knight, his puppet "Suzy," Lassie and Jon Provost are shown in a Lassie segment *The Puppet*, filmed by Frendal Productions, Inc., for television. Knight also appears in Frendal's first educational film, *Let's Build a Boat*. The 16mm color film was prepared under the supervision of the Los Angeles City Board of Education and is intended for the elementary grades.

Can You Afford AV Disasters?

Reading John Borza's story (page 533) of the disastrous flood which destroyed so many dollars worth of audiovisual equipment and materials, makes us stop and think. Think of the numerous AV libraries and equipment pools housed in out-of-the-way places — abandoned cellars, rickety outbuildings, space judged "unfit" for any other purpose. In places like these equipment and materials fall easy prey to water, fire, and more insidious dangers such as abrasive dust and grime.

How do schools justify stashing away an AV center, a function valuable both in terms of financial investment and educational services provided? How can they afford to take the chance of seeing equipment, for which they have budgeted long and hard, and sometimes irreplaceable materials go down the drain? It is definitely time to *Get AV Out of the Cellar!*

Videotape for School Use?

After noting the predictions on the future of videotape in educational situations (page 526), some of our readers will, we hope, come up with ideas of their own to share with others. It is very possible that audiovisualists connected with smaller schools or school systems will approach the problem from viewpoints quite different from those of the leaders we solicited, and equally interesting.

Articles to Come

In the next issues we will present subjects ranging from complex language laboratory installations to simple scale models, used to bring elementary pupils in contact with the areas they are studying. Readers will learn of one university's use of AV in the teaching of extension courses—and the efforts that went into creating an AV center in an already established school. Also waiting are the details of a Texas project in more efficient staff utilization, involving teacher teams, clerical aides, and of course audiovisuals.

The December magazine will again contain summaries by leading authorities of 1959 activities in the AV world, as well as their forecasts of the future.

EDUCATIONAL SCREEN & AVGUIDE

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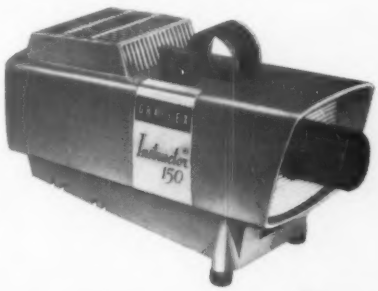

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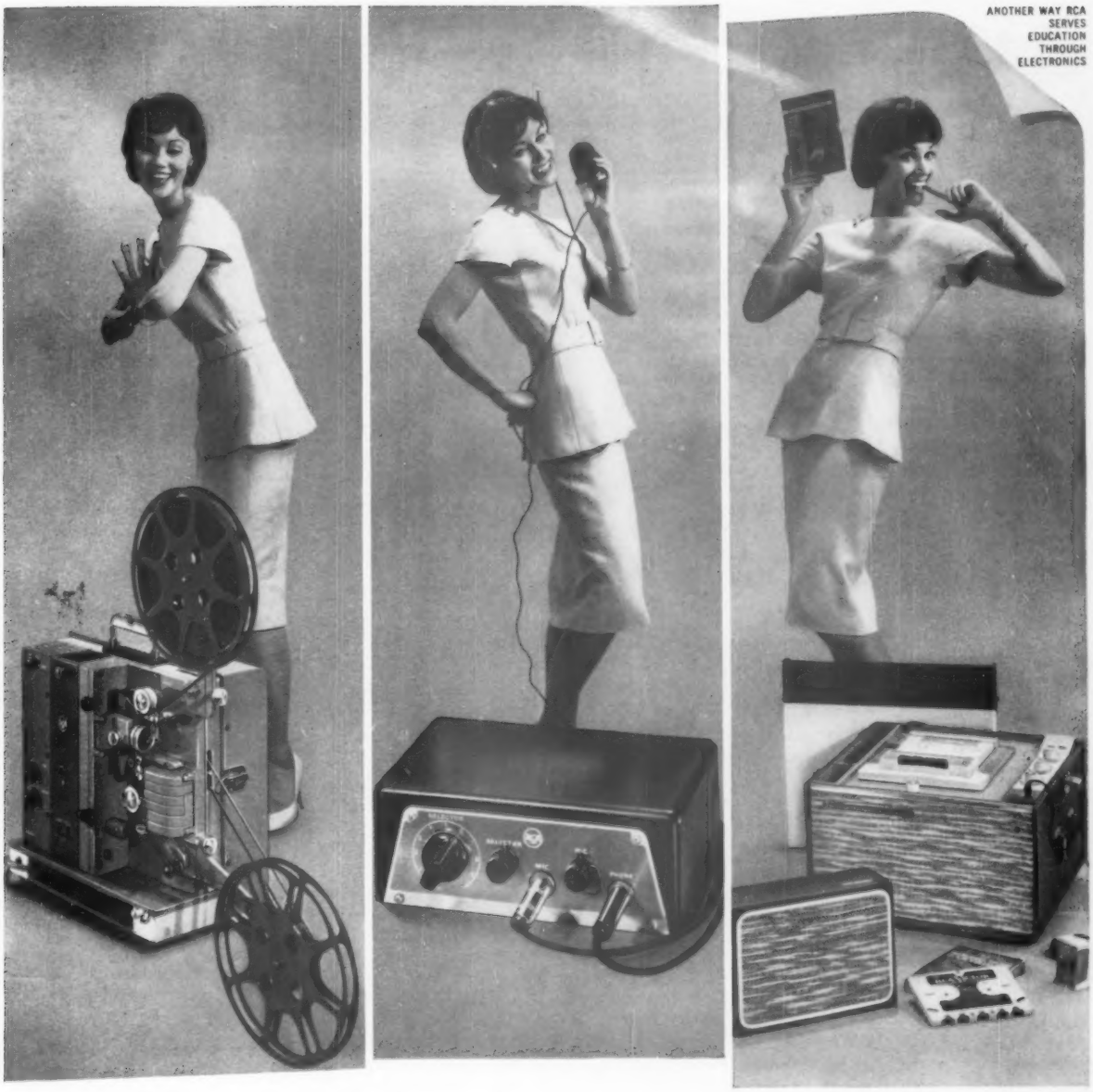

and Senior models feature easiest, fastest threading in 16 mm, brighten films with 20% more light on screen, operate whisper-quietly. Porto-Arc delivers brilliant pictures, life-like sound in large areas.

Expert foreign language teachers have worked closely with RCA engineers who designed several RCA Language Laboratory Systems. Each of these language practice systems is low-cost, simple to operate, readily expandable, easily installed and maintained. Invaluable for learning to *speak* and *understand* any language.

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(left to right) RCA "Scholastic" High Fidelity record player; RCA Victor Educational Records and Prerecorded Tapes; RCA Victor AM-FM Radios; RCA "Life-Tested"* 16 mm Projector; RCA Language Laboratories; RCA Victor Cartridge Tape Recorder.

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RADIO CORPORATION of AMERICA

Educational Services
Camden 2, New Jersey

HAVE YOU HEARD?

News About People, Organizations, Events

Attending Texas Cooperative Conference were (left to right): O. L. Davis, Jr., associate secretary, Association for Supervision and Curriculum Development; Mrs. Gladys Polk, president, TASCD; Jack McKay, president, TEXAVED; Dr. Harold Wigren, etv consultant, National Education Agency; Mrs. Irene Davis, chairman, School Libraries Division, TSTA and TLA.

Texas Instructional Materials Conference

"Secondary in importance only to the teacher in our educational process is the material she makes available to her children," Dr. Chandos Reid, assistant to the superintendent in charge of curriculum, Waterford Township Schools, Pontiac, Michigan, told curriculum supervisors, teachers, librarians and audiovisual consultants attending The University of Texas' first Cooperative Conference on Instructional Materials.

Taking as its theme, "Extending Educational Horizons Through Effective Use of Instructional Materials," the conference was an unusual one from the standpoint of involvement. In addition to the Texas Association of Supervision and Curriculum Development; the School Library Division of the Texas Library Association and the Texas State Teachers Association; and the Texas Audio-Visual Education Association, sponsoring organizations, many members of the academic faculty of the University participated in its various activities.

Classroom teachers attending the three-day meeting were assured by Dr. Harold Wigren, educational television consultant for the National Education Association that television was a "neutral medium": only the teacher could make it what it was.

Unique feature of his discussion was a "feed-back" session in which informal groups were confronted with two questions: "What can television teaching do that no other medium can do?" and "What can television not do that a teacher or other learning tool can do?" and the results reported back to the group.

In connection with local implementation of the National Defense Education Act, Ralph P. Frazier, specialist in science equipment and materials for the U.S. Office of Education, emphasized two ideas: one, that care and planning must go into the selection of equipment and materials; and another, that teachers must be trained in the use of these things.

Utilizing an overhead projector to outline new developments in the area of science teaching, Dr. Addison Lee, director of the Science Education Center in the University's College of Education, explained that science teachers must find ways to enable individual students achieve educational goals on their own initiative without undue reliance on the teacher.

Dr. Lee also conducted a science teaching demonstration in which he employed such instructional materials as magnetic board models and time-lapse photography to illustrate a biology lecture on the chemical composition of chromosomes.

Various instructional materials, organized around an eighth grade science unit, "Properties of Air," were used by Mrs. Nettie Shaw of Carthage to demonstrate the "cross-media" approach.

Special contribution of the Summer Institute was four group sessions on use of the language laboratory. Supervised by staff members, these groups learned how drill tapes were prepared for practice and repetition and how tape recorders and earphones were replacing the lecture method in the classroom.

The conference provided facilities for preview and evaluation of teaching materials in the areas of science, math and foreign language. Teaching displays and commercial exhibits also were featured.

In a summarizing session, the group agreed to report conference proceedings to local groups; permeate the thinking of co-workers for better utilization of materials through pre-service education; maintain contact with other professional groups; and work with community groups in utilizing materials used in the schools.

Planning the conference were members of participating organizations: Mrs. Irene Davis, Mrs. Edith Cosgrove and Mrs. Louise Van Meter, Texas Library Association; Dr. Gladys Polk, Mrs. Bertha Brandon and Miss Gladys Henninger, Texas Association of Supervision and Curriculum Development; Jack McKay and Dr. Ernest Tiemann, TEXAVED.

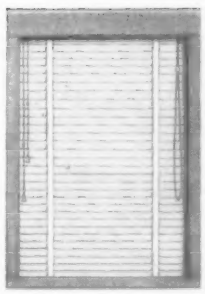
People in the News

James W. Hulfish, Jr., is the new Director of Information for the National Audio-Visual Association. He previously served as Administrative Assistant to the Executive Vice President of the United States Wholesale Grocers' Association.

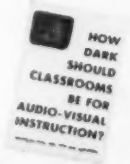
Hal F. Riehle has been appointed Assistant Chief, Audio-Visual Center, at the United States Air Force Air University, Maxwell Air Force Base, Alabama. He will coordinate production of instructional materials and develop and improve teaching methods involving these materials. Previously, Mr. Riehle was coordinator of audio-visual services at Northern Illinois University and assistant professor in the AV departments of the University of Florida and Florida State University.

There's no need for a special room assignment, no delay, when the classroom has LEVOLOR A.V. (Audio-Visual) VENETIAN BLINDS. These blinds give complete control of ambient light to suit the subject, projector and student activity.

Today, any classroom can be converted for Audio-Visual instruction inexpensively by the installation of LEVOLOR A.V. BLINDS.



Write for Levolor's invaluable survey report "How Dark Should Classrooms Be For Audio-Visual Instruction?" No charge or obligation. Write to Audio-Visual Dept., Levolor Lorentzen, Inc., 720 Monroe St., Hoboken, N. J.



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The Scientifically Developed Audio-Visual Blind

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STEPHEN F. KEEGAN, former editor and publisher of *Film A-V News*, has been named special assistant to Barnett Glassman, president of Pathe News and head of the press department.

☆

ALBERTA L. MEYER has been appointed executive secretary of the Association for Childhood Education International. She formerly served for nine years as consultant in the Division of Audio-Visual Education for the St. Louis (Missouri) public schools.

☆

BRICE HOWARD, formerly an NBC television producer, is now manager of Michigan State University's educational TV station WMSB. The position was formerly held by Dr. Armand L. Hunter, director of broadcasting, who coordinated all university activity in television, radio and closed circuit TV broadcasting. Dr. Hunter will continue as director.

☆

MRS. BEATRICE S. SIMMONS, Secretary of the Illinois Audio-Visual Association, is now Film Consultant in the Illinois State Library. Her previous post was with the State Superintendent of Instruction.

☆

CURT LEHMAN, AV director of the South St. Paul schools, is the new president of the Audiovisual Coordinators Association of Minnesota.

DR. DON G. WILLIAMS, director of the Syracuse University Audio-Visual Center, was elected president of the International Liaison Center of Motion Picture and Television Schools. The Liaison Center, an associate member of the UNESCO Communications Media Center, has as its purpose the stimulation of information exchange on film production methods and film and television production training techniques.

☆

LORAN C. TWYFORD has been appointed to the New York Division of Educational Communications as a consultant in audiovisual methods and materials and educational communications in general. Formerly he was director of the Instructional Film Research Program at Pennsylvania State University and Associate Professor of Audiovisual Education at Michigan State University.

University of Miami Progress Report

High points in the year ending May 31, 1959, were: graduation of 29 students majoring in the department's subjects; completion of a $60,000 color film series, "Survival in the Sea," for WTHS-TV and the National Educational Television and Radio Center; a contract with the U. S. Office of Education for a two-year, $60,000 research experiment in summer TV teaching; academic approval to start

a graduate program in 1960 for master of arts degrees; and renewal of the Briggs Family Foundation scholarship grant of $5,000.

Other progress cited was: installation of kinescope facilities operated cooperatively with WTHS-TV, and construction of custom-designed, high-speed, motion-picture negative processing machine.

Twenty radio, television, and film courses were taught in the first semester, and 17 in the second. Students majoring in the department numbered 156.

Three Miami radio stations, WGBS, WCKR, and WQAM, broadcast 119 programs produced by the department.

Three Miami television stations, WTVJ, WCKT, and WTHS-TV, broadcast 134 programs produced by the department.

The motion picture section photographed 56,000 feet of 16 mm. film; kinescoped 13,000 feet; processed 445,000 feet of negative, printed 402,000 feet and recorded 40,000 feet of magnetic sound film and 319,000 feet of tape.

Vancouver Festival

Twenty-five countries participated in the second annual Vancouver Festival, from August 3-15. From the 250 entries, 114 films were chosen as worthy of presentation.

An international panel of judges, comprised of James Card, film curator of Eastman House, Rochester, N. Y., George Tabori, Hungarian-born screen writer and playwright, and Osmond Borradaile, Canadian motion picture photographer and director, chose award winners on the closing night. Winners were: *Documentary* — "A Soho Story," Great Britain; *experimental* — "Two Men and a Wardrobe," Poland; *children's* — "The Story of Small and Big Kids," Japan.

The KEYSTONE Standard Overhead Projector
is available for purchase under the

National Defense Education Act

The Keystone Standard Overhead Projector is designed for the projection of Standard (3¼" x 4") Lantern Slides, Polaroid Slides, and Handmade Lantern Slides or, with appropriate accessories Tachistoslides (4" x 7"), 2" or 2¼" Slides, Strip Film, and Microscopic Slides.

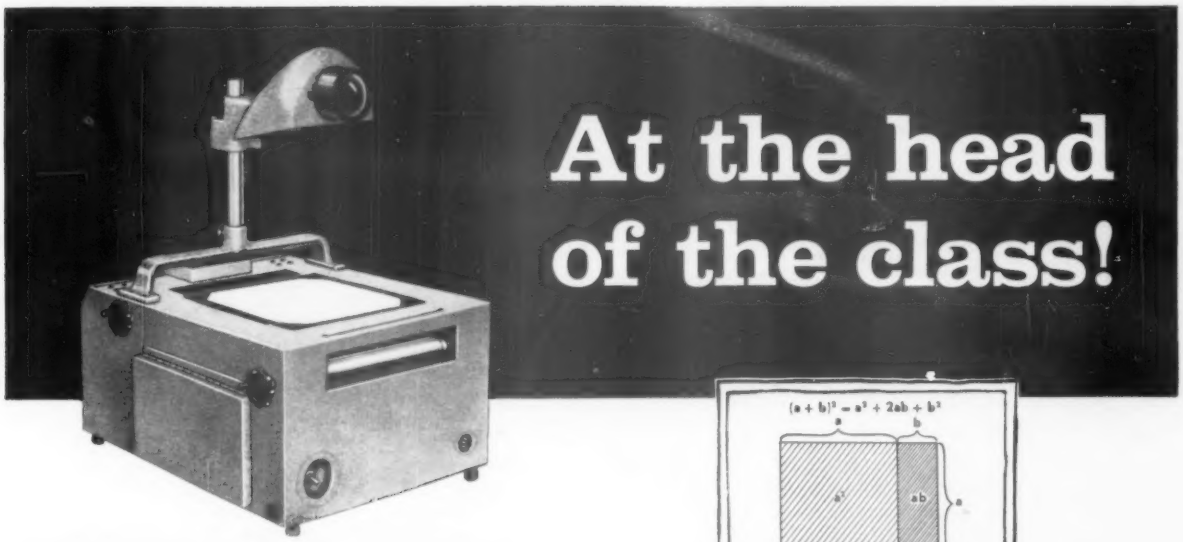
It is useful —

In the Science Category with appropriate units of slides in Physics, Biology, General Science, Health, Hygiene, Physiography, and Elementary Science.

In the Mathematics Category in teaching Number Combinations tachistoscopically; Solid Geometry with Stereograms.

In the Modern Languages Category in teaching French and Spanish with Tachistoscopic Units.

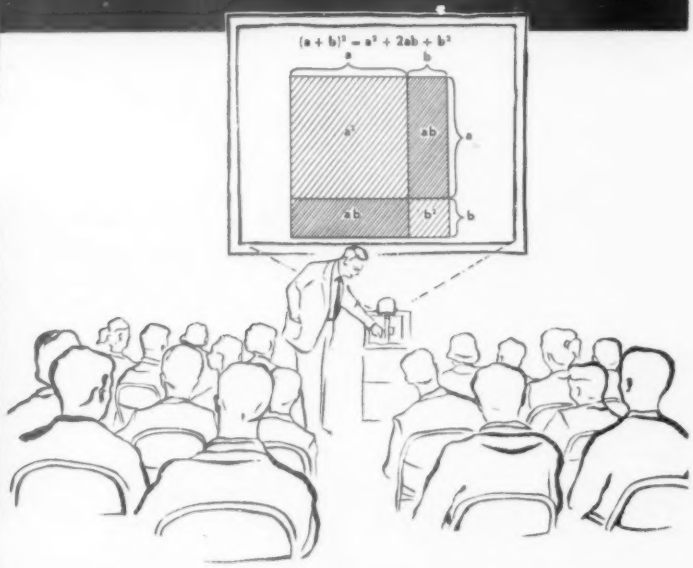
Write for Further Information or a Demonstration by our Local Representative.
KEYSTONE VIEW CO., Meadville, Pa. *Since 1892, Producers of Superior Visual Aids.*



At the head of the class!

Using the projector as a blackboard.

Building up a composite image with several sheets of film.



THE OVERHEAD PROJECTOR keeps the teacher in front of the class, projecting his own slides, facing his class at all times, observing reactions, and adjusting his presentation to the response of his pupils.

There is no need for a separate operator, with an accompanying system of signals. The projector *complements* the teacher rather than *replaces* him. The teacher selects his own pace, extemporizing as he wishes; commenting before, during, and after projection.

He uses the screen as a blackboard, writing or drawing at will on slides or sheets of transparent plastic, without turning away from his class. Single or multiple sheets of film are easily superimposable on the slides, allowing the teacher to unmask transparencies in progressive disclosures, or to build up several components into a composite image.

Slides are large (8" x 10"), and easy to make. Rudimentary art skills produce dramatic, colorful transparencies.

If you wish to learn more about the Overhead Projector, please write to Section OP, Visucom Laboratories, Tecnifax Corporation, Holyoke, Massachusetts. Please indicate in the letter the nature of your interest.

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CORPORATION
Manufacturers of
Visual Communication
Material
and
Equipment
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Calendar

Sept. 28-Oct. 1 — Industrial Film and AV Exhibition, New York City.

Oct. 5-9—Society of Motion Picture and Television Engineers, 86th semi-annual convention, Statler-Hilton Hotel, New York City.

Oct. 13-15—Industrial AV Association, fall meeting, Princeton Inn, Princeton, N. J.

Oct. 20-22—Technifax 16th Seminar—Workshop in Visual Communication, Holyoke, Mass.

Oct. 23-24—Illinois Audio-Visual Association, fall meeting, Moline, Ill.

Oct. 26-30—Society of Photographic Scientists and Engineers, annual national conference, Edgewater Beach Hotel, Chicago, Ill.

Oct. 27-30 — National Association of Educational Broadcasters, Sheraton Cadillac Hotel, Detroit, Mich.

Nov. 8-14 — AMERICAN EDUCATION WEEK.

Nov. 20-21—Michigan Audio Visual Association, fall meeting, Western Michigan University, Kalamazoo, Mich.

AV Courses to be Televised

A course in audiovisual education will be televised in test areas of the United States. The lessons, 42 in number, include audiovisual equipment, its classroom usage, and techniques of teaching with audiovisual materials. This project will be executed by Professor Wesley Meierhenry, University of Nebraska; Professor C. F. Schuller, Michigan State University; V. B. Rasmusen, Wisconsin State College, La Crosse; Lee Campion, St. Louis County Schools; Philip Lewis, Chicago Board of Education; F. A. White and W. A. Wittich, University of Wisconsin; Robert Suchy, Milwaukee Public Schools. The lessons will be kinescoped this fall and broadcast at the beginning of next year.

American Science Film Association

The formation of an *ad hoc* committee to organize an American Science Film Association was announced today by Dr. Randall M. Whaley, Associate Dean of the School of Science, Education and the Humanities at Purdue University. The Committee, consisting of a group of scientists and film specialists, was formed in Washington early in July, in response to recommendations made at an "Interdisciplinary Meeting on Films and Television in Science Education," called by the Advisory Board on Education, National Academy of Sciences — National Research Council.

Organizing committee members are: Chairman: R. M. Whaley, Purdue University; Vice Chairman: A. B. Garrett, The Ohio State University; Vice Chairman: Carl Allendoerfer, University of Washington; Treasurer: Donald G. Williams, Syracuse University; Secretary: Robert E. Green, National Academy of Sciences — National Research Council. Other committee members are: John Flory, O. S. Knudsen, Richard H. Orr, Daniel Rochford, Edwin W. Roedder, H. Burr Roney, Robert Wagner, Willard Webb.

It is expected that formal organization of the Association will be completed in 1960.

East Carolina College Holds AV Workshop

Sixty-six students from six states attended the second annual summer Workshop in Audiovisual Aids held recently at East Carolina College, Greenville, N. C. The Workshop was directed by Professor Marguerite Vanderclock Crenshaw of the College's Department of Library Science. Guest consultants included: Cora Paul Bomar, state supervisor of libraries; Wendell W. Smiley, librarian and technical director, Department of Radio and Television; Jane F. White, Department of Business Education; Anne Dunn Ross, AV supervisor of Durham County public schools; and W. Gordon Gibbs, business machines representatives.

Current projects in which producers of visual aids and textbook publishers are co-operating were studied extensively, and the making of a wide variety of visual materials for demonstration lessons by project committees, and a tour of the East Carolina College television and radio station added to the workshop program.

International AV List

The World Confederation of Organizations of the Teaching Profession recently published a catalogue entitled *Audio-Visual Aids for International Understanding*. The catalogue converts into a card file system, and contain over 1200 AV materials.

Copies are available from WCOTP, 1227 6th St., N.W., Washington 6, D. C. Price, $2.50.

PROJECT YOUR SLIDES **UP TO 30 FEET WIDE** WITHOUT DARKENING ROOM

Old-fashioned, incandescent projectors limit you to small screens and small audiences —

For that convention, sales conference, technical meeting, or training school present really big, brilliant, full-of-detail pictures. Project 3¼" x 4" and 2" x 2" slides with a

STRONG UNIVERSAL ARC SLIDE PROJECTOR

even where darkening the room is impractical, or where it is desirable to maintain illumination for taking notes. Plugs into any 110-volt A. C. outlet. Easy to operate. Complete with blower, power transformer, arc lamphouse with motor-fed carbons, and choice of objective lens in the range of 6½ to 20 inches inclusive. Available with Electric Changer which holds 70 3¼" x 4" slides which can be changed by remote push button control.

Used by Ford, National Cash Register, General Motors, S. S. Kresge, General Electric, Eastman Kodak, Hamm's Brewery, United Air Lines, Westinghouse Electric, Lockheed Aircraft Corp., Detroit Edison Co., Massachusetts Institute of Technology, Purdue University, advertising agencies, television stations, and many government agencies.

Write for literature and prices. Suitable trial period can be arranged.

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With the Authors

JOHN BORZA has been Chief of the Bureau of Visual Education for the Cleveland Board of Education for almost four years. Formerly, he did audiovisual work in the evening adult education division of the Cleveland Public Schools, produced training visuals for the Ford-Ferguson Tractor Company, and rejoined the Cleveland Schools as head of the production department. Mr. Borza has produced several educational sound films, and is in charge of filming the Cleveland Browns football games. He also teaches courses in audiovisual practices and film production at Western Reserve University.

★

PHILIP FAYEN is Audiovisual Director and a sixth grade teacher at Kimball School, National City, San Diego County, California. Audiovisual education was his minor during graduate work at Florida State University, and he has been responsible for the AV program in the various schools in which he has taught.

★

GILBERT HAGERTY, whose archaeological findings make up the story on page 536, is coordinator of visual aids and speech arts at Rome Free Academy, Rome, N.Y. His varied activities have included publications of articles, stories, verse and plays, radio announcing, historical research and little theater work, as well as three years with the U.S. Navy Visual Aids Department. He is also newly-appointed Director of the Ft. Stanwix museum.

★

ROBERT A. MINER is Manager, Market Planning Department, Ampex Corporation, Redwood City, Calif.

★

OLWYN O'CONNOR is an assistant in the Audio-Visual Department, Schenectady (N. Y.) public schools.

★

DEPARTMENT EDITORS are: AUDIO—Max U. Bildersee, audio education consultant, state department of instruction; AV IN THE CHURCH FIELD—William S. Hockman, Director of Christian Education, First Presbyterian Church, Glens Falls, N. Y.; FILM EVALUATIONS—L. C. Larson and Carolyn Guss, both of the Audio-Visual Center, Indiana University, Bloomington; FILMSTRIPS—Irene F. Cypher, Associate Professor of Education, New York University.

The Art of Listening

by Olwyn O'Connor

THE inability of our people to listen is a direct result of the electronic age we live in. Adjustment to the ever-increasing sounds about us frequently takes the form of unconsciously "tuning-out" everything that does not *immediately* grasp and hold our attention. Since listening is one of the four basic components of communication, we can ill afford to ignore the significant noises and become a nation of poor listeners.

Business and industry recognize that listening deficiencies prove costly in dollars and time and are currently including listening comprehension in their training courses. Colleges and universities are beginning to offer courses in listening.

Reading, writing and speaking have long been basic educational curriculum, but listening has, until recently, been largely ignored. Educators must recognize the potential danger and work toward developing listening skills with the young child.

Good listening does not come about through mere practice *unless* we are practicing good listening habits. If we can teach the child listening habits that develop and refine with his maturation, a significant communication problem may well be solved. The "unlearning" of poor listening habits in adult life would then be unnecessary.

Audiovisual equipment and materials are "naturals" for teaching effective listening skills. The classroom orientation prior to listening to records, viewing films, filmstrips, etc., establishes a favorable frame of reference for listening and seeing. Such materials also illustrate the inter-relationships of visual stimuli in conjunction with audio. Listening is thus demonstrated as not just hearing but as a composite awareness and interpretation of all stimuli present.

Group listening to the spoken word or music provides motivation for the individual child's attention. The young child, by his very nature, wants to conform and make the same overt responses as his classmates.

Program repetition is recommended in the initial experiments in order for the poor listener to practice attentiveness and "hear" what he missed. Introspection, if encouraged, will provide the average child with sufficient knowledge of his individual deficiencies to demostrate more self discipline when the next program is presented.

The use of folk music, for example, may be successfully used to demonstrate listening skills on the elementary level. The sea chantys, war songs, work songs, etc. tell a story as well as give insight into the daily lives of the people depicted. How much can we learn from the word pictures of "The Erie Canal"?

At more advanced level, classroom discussion of radio and television programs are especially profitable. Emphasis and detail are noted as well as where specific intent of program was lost or came to fruition.

The tape recorder offers obvious and unlimited possibilities for demonstrating listening skills.

Person-to-Person communication may also be illustrated via audiovisual materials. A slide is placed on the screen with one-fourth of the class viewing it while the remainder are out of the room. Each of the viewers then communicates the details of the slide to one of the second fourth, etc. The last fourth repeat aloud what they have been told by the third fourth. The chain loss in oral communication is easily and enjoyably demonstrated by having the entire class view the slide together.

If statistical research surveys are correct, the average American spends 45 percent of his waking hours listening!!! We must close this instructional gap and teach our children to listen to learn if we are to fulfill our obligation to society.

an editorial memorandum

to

Fifty Chief State School Officers

Paul C. Reed

We have just seen your new book, and we are disappointed in it. In fact, we just can't figure out, considering all the care and attention you gave to the preparation of this book, why you treated audiovisual materials and equipment the way you did.

We fear that local and state school authorities may be misguided about audiovisual materials and equipment in relation to the National Defense Education Act, if they follow too closely your "Purchase Guide for Programs in Science, Mathematics, Modern Foreign Languages." The trouble is that for the most part your Guide deals with AV materials and equipment quite indifferently, and there are some serious omissions. Although audio equipment is an integral part of the language laboratory recommendations, when it comes to the science and mathematics part of the Guide, audiovisual materials are regarded as relatively unimportant and not essential.

Your Guide purports to tell school authorities "what to purchase and how to get full value for school funds expended." But let us cite just three unfortunate examples with reference to audiovisual equipment: (1) You state that it's more important to have four different kinds of globes in a general science classroom, namely, Blank, Celestial, Hall Tellurian, and Terrestrial, than it is to have a still or motion picture projector! (2) You have completely ignored the existence of such an important and valuable tool as the opaque projector! Its value in science classrooms has been proved over and over again in the past fifty years. (3) You recommend standardizing on projector stands "sturdily constructed of wood" when no reputable audiovisual dealer has sold such a piece of equipment in the past decade!

As further evidence of the disappointing treatment you give to audiovisual materials, you list seventy-four columns of books that would be helpful to schools, and you don't name a single motion picture, filmstrip, lantern slide, tape recording, or phonograph record. You list nearly two hundred publishers and book dealers, and you don't name a single producer of audiovisual materials or a single audiovisual dealer.

Such oversights raise a lot of questions:

What happened? Why have you treated audiovisual matters in this way?

Why did you work so closely with The Scientific Apparatus Makers Association who "supplied substantial funds to provide for the necessary special staff in the National Bureau of Standards" and not at all with the National Audio-Visual Association?

Why did you have a subcommittee of "officials and technical personnel from companies manufacturing scientific instruments and apparatus," and not consult at all with manufacturers of audiovisual equipment?

Why is it that among the one hundred thirty-three educators to whom you acknowledge "with appreciation their generous contributions" only two have any distinction or connection with the professional audiovisual field?

Why did you have the assistance of the American Association of School Librarians and the American Library Association and not that of the N.E.A. Department of Audiovisual Instruction and the Educational Film Library Association?

You can see, Sirs, that not only are we disappointed in the Purchase Guide, we are disturbed. Not only have pertinent and important groups of professional educators and educational suppliers been overlooked, but you may misguide some local and state school authorities whom you are trying to help. We hope that you will be concerned about this, and that steps can be taken immediately looking toward the publication of a supplement to or a revision of the Guide.

At the new Cardinal Mooney High School, Youngstown, Ohio, selected by A.A.S.A. for its exhibit of outstanding school designs, Sister Marijane, O. P., says:

"Modern facilities and up-to-date equipment give these boys a better picture of the tomorrow they'll live in."

"In our Air-Science course, for instance, we ride with jet planes, track rockets into space, follow missiles to a target, explore the surface of the moon, look into the heart of a wind tunnel. This course is filled with similar interesting and important modern-age experiences. Yet, without the contemporary facilities this new school offers, such a course would be impractical. Without up-to-date audio-visual equipment like this Kodak Pageant movie projector, such a course would be next to impossible."

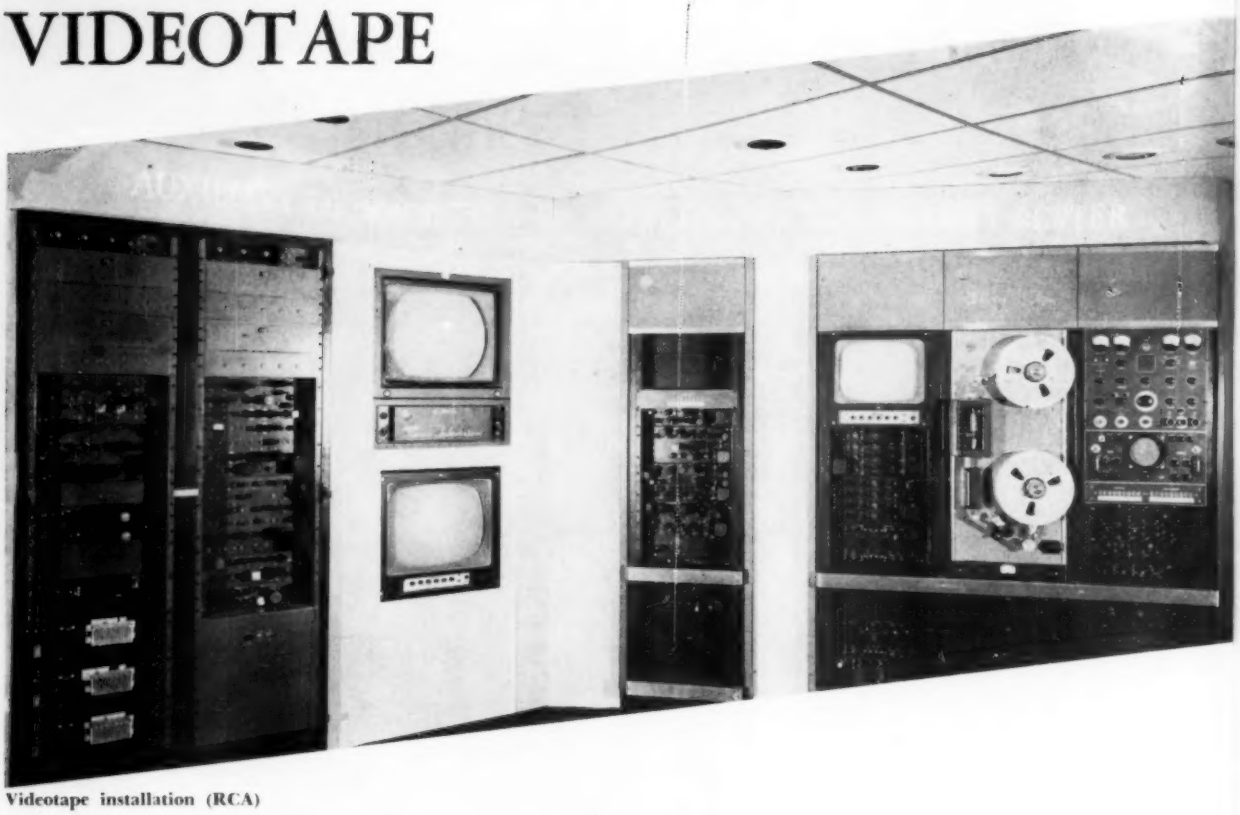
Concern for the future of today's youngsters must entail similar concern for adequate teaching facilities and reliable equipment. The Kodak Pageant 16mm Sound Projector more than satisfies school standards for projectors. You'll see its above-normal picture brilliance in only half-darkened rooms.

You never need to oil it, never need to keep oiling records. Students and teachers can operate it easily after one try.

Your Kodak AV dealer will demonstrate anywhere and any time you say. Or write for Bulletin V3-22; no obligation, of course.

Kodak Pageant Projector 〉 **EASTMAN KODAK COMPANY, Dept. 8-V, Rochester 4, N.Y.**

VIDEOTAPE



Videotape installation (RCA)

Videotape recording is one of the challenging new electronic materials for communication. Up until now, its use has been pretty well confined to the recording of material to be transmitted by television. Does it hold other promises for education? Is it a challenge to film?

The predictions, often frankly dreams, of many of the foremost leaders in the audiovisual field are here presented in symposium.

THE Industrial Revolution occurred when it became possible to reproduce endlessly the work of a master craftsman. Moveable type, film and tape recordings have revolutionized the making of duplicate records of information. A revolution in communication has occurred when we can bring a rich, full-bodied event to the individual instead of taking him to the event. Videotape provides a unique, revolutionary, new instrument for this purpose.

Edgar Dale
Professor of Education
Ohio State University

I really do not see the challenge, from an educational point of view, of "videotape recording." What does videotape offer, other than immediate playback, that is not now provided through motion picture film? I can appreciate the value of immediacy in programming news and other public information TV programs. But so far as instructional materials for school use are concerned, immediacy of playback is of secondary or even tertiary importance.

We certainly do not select textbooks solely on the basis of the recency of their printing. Neither, I believe, should we select other instructional materials on the basis of such a criterion. Whether an AV instructional presentation is on videotape or motion picture film is immaterial —just as it is immaterial whether an audio presentation is on disc or tape. We should be concerned with *what* is presented rather than

Its Promise for Education

whether the presentation be done electronically, mechanically, or optically. Let's leave the methodology of presentation to the scientists and engineers. We have our own problems in improving educational materials.

Seerley Reid
Chief, Visual Education Service,
U. S. Office of Education

VIDEOTAPING promises in the near future to make educational TV programs generally available at a choice of broadcast times, reducing class scheduling difficulties in schools. This off-the-air videotaping is still beyond our grasp with regard to design and cost but is coming closer, with enormous potential impact on AV resource programs. Now, looming in the distance, we see the even more fascinating possibility of electronic photography ultimately replacing the chemical processes on which existing cameras and projectors are based. Resultant technical efficiency gains, and reductions in duplicating costs are hard to estimate potentially but too important to neglect in the very long view.

Edward G. Bernard
Director, Bureau of AV Instruction,
City of New York

MAGNETIC tape recordings are presently serving as "memory aids" for complex electronic brains and are also being used as the control elements in the guidance of missiles and rockets. Video magnetic tape is becoming more and more in use for recording television programs for future telecasting. These, and many other interesting developments in the magnetic tape recording field, have tremendous implications for education.

Sometime in the foreseeable future there will be one basic audiovisual machine in every classroom. This one machine will replace motion picture, filmstrip, slide, opaque, overhead, and micro-projectors. It will also replace record players, tape recorders, radio and television receivers, and small public address units. This machine will be capable of doing everything all the above named devices can do including presenting materials in color.

What will it be like? I predict it will look somewhat like a combination of a television receiver and a tape recorder. The screen will be much larger than present television screens and will be flat similar to a framed picture instead of elongated like the TV picture tubes of today. Also, scanning lines will not be as apparent as they are in today's receivers. The picture quality will be far superior to either the projected or television pictures of today. There will be improved tonal and color quality.

What will these audiovisual machines do? I predict that pre-recorded video tapes, similar to present day educational films, will be available in ample quantity to meet the needs of a space age educational system and these tapes will be retained in each individual school for immediate use when needed. Filmstrips, slides, opaque pictures, and transparencies will also be available on pre-recorded tapes by use of the film-o-graph technique. Of course, these machines will receive and reproduce television and radio programs, and its tape mechanism will do everything present date tape recorders will do.

While it is predicted there will be such a machine as described above in every classroom, there will be a second machine but probably only one per school. This second machine will have the capability for recording on magnetic tape all kinds of pictures and sounds. It will be capable of recording on tape television and radio programs, motion pictures from film, filmstrip, flat pictures, transparencies, objects and models, even live action. This recorder will permit the teacher to prepare almost any type of visual and/or auditory materials for presentation to classes.

A revolution in education is overdue. In my opinion education has made possible the tremendous technological advances of today; now it is time for these technological advances to make possible an education suitable for the space age. If we do not have this educational revolution we will have the tragic consequences of education's child (our modern culture) looking after an old out-dated and senile educational system, which will not be able to produce an educated people capable of coping with the requirements of a space age. If this educational revolution does materialize, it will result in achievements far beyond our greatest dreams.

Walter S. Bell
Director, Audiovisual Education,
City of Atlanta, Georgia

CRYSTAL-gazing in videotape in education is a precarious business, since the educational utility of this new device depends on: (1) engineering ingenuity, (2) educational changeover to electronics, and (3) educational acceptance of the electronic age.

To any one familiar with inventiveness in the exploding field of electronics, the foreseeable achievements seem almost without limits. It is easy to foresee the direct feed-in of videotape to the TV classroom receiver. This will require (a) modification of the receiver to accept signals from the tape and (b) reduction in tape cost by

several orders of magnitude. Once this is achieved, tape rather than film can become the commodity of motion pictures in education.

Picture quality on a 21" receiver will certainly not be reduced by videotape. For large screen projection, e.g., for large classroom or auditorium use, the problem of picture quality is more complicated. Available big-screen TV projectors are far from satisfactory. The problem of the large TV screen is that of the separation of the horizontal scan lines of the present TV system. TV involves optical scanning, photography does not. However, since the theory of electronics is very well developed (in contrast with that of photography), the scanning problem is easily reducible to engineering technology and the technologists are very clever fellows.

Given the technological developments, the production of tape libraries for school use, and the phased changeover from film to tape, the limits of videotape in education are largely those of limitations of the imagination, creativeness, and downright professional competence of school administrators and teachers. The handwriting on the wall is: "Get ready for the electronic age in education too!"

Charles F. Hoban
Research Professor of Education,
Institute for Cooperative Research,
University of Pennsylvania

VIDEOTAPE recording (1) makes possible rapid *exchange* of whole courses or special sections of courses.

(2) Makes possible more economical *revision* of courses.

(3) Home recorders will make possible great personal libraries of academic-cultural information. A *flexible* library.

(4) Special international events will be re-recorded (a la Geneva) and shown throughout the world in a matter of hours—or minutes.

(5) All uses of VTR mean easier and more rapid accessibility of information—both trivial and important—a kind of literal omnipresence of impressions generated by others than the consumer, truly a flow in which the future will swim.

David C. Stewart
Assistant Director, Joint Council
on Educational Television

THE more I look at the development in the area of instructional tools, the more I am convinced that we are going to need better teachers to use these aids efficiently. It seems to me that the more choices the teacher has to make as to materials and devices, the better educated the teacher will need to be in order to make the proper choice to fit the needs of the class. With the wonderful new electronic aids being developed, we some times fail to recognize this fact.

Although the videotape recorder is still too costly and complicated to consider for immediate use in the classroom, I feel it has great potential. Think of what the creative teacher could do with this device in the way of local production. TV programs can be easily taken off the air and used at a time when they will fit the classroom instruction. Due to its flexibility, the material not needed can be quickly edited out. Questions, visuals, comments could be inserted to make the audiovisual material fit the specific class situation. Teachers could photograph demonstrations, field trips, outstanding events, for use in the classroom. The videotape recording in the hands of a creative teacher has unlimited possibilities. In the hands of the non-imaginative teacher, it is but another tool to complicate the teaching situation.

Arno de Bernardis
Assistant Superintendent,
Portland (Ore.) Public Schools

WE all know how much today's tape recorder has contributed to our capacity as teachers to provide a variety of essential audio learning experiences. To any number of teachers, the tape recorder is *the* teaching tool, *par excellence*. To me it seems only logical to suppose that the videotape recorder, combining in effect the advantages of the present tape recorder with those of the motion picture camera, will similarly influence teaching. If the spread of use of the videotape recorder were also to be accompanied by a corresponding increase in the number of trained audiovisual materials specialists to work directly with teachers to adapt this and other media to educational purposes, results could be revolutionary.

James W. Brown
Professor of Education
San Jose State College

ELECTRONIC canning of television images and sounds on videotape presents an even greater challenge to educators than the advent of television. For the present, videotape cost is prohibitive for extensive educational use. However with experience and improvement of the art as it is applied to business, industry and professional needs its cost will be reduced to a fraction of its present level. When this occurs, educators will have an instrument which will provide the flexibility needed to apply the medium of television to the whole gamut of education. Perhaps videotape will simply be another item in the kit of tools we already have. However, since it is apparent that most schools are going to be equipped with television receivers, I wonder whether the TV screen via videotape may not become most often used device for presenting visual images in the classrooms. As such we may find the celluloid film and the motion picture as we know them today obsolete. Film libraries will then become tape libraries and other revolutionary changes in audiovisual education will follow.

Francis W. Noel
Int'l Cooperation Administration,
AV Education Advisor to Gov. of India,
National Institute of AV Education,
New Delhi, India

THE forward march of progress in communication media is increasingly becoming a race with our ability to make intelligent use of them in education. Videotape is one example of this. At a period when educators, generally, are still a bit hesitant about employing motion pictures and TV as integral rather than peripheral tools of instruction, we have the prospect of an instrument which can readily and accurately record any audiovisual impression from anywhere and play it back, when desired, at the push of a button.

But one thing seems certain – that teacher education and teaching methods must adjust much more rapidly in the future than they have in the past or the primary responsibility for educating our society will pass from the schools and colleges as we know them into the hands of other, and probably less desirable, agencies.

Charles F. Schuller
Professor of Education and Director, AV Center, Michigan State University

IN the future videotape recording will be an everyday tool, indispensable in many teaching situations. For example, teacher trainees and students of public speaking can see and hear themselves immediately. Surgical operations, videotaped in color, can be re-run to emphasize techniques for students and practicing surgeons. Closed-circuit and broadcast ETV instruction can be taped for later use to avoid schedule conflicts Busy administrators can record instructions with visual demonstrations for viewing by teachers and staff at times convenient to all. In other words, VTR will be taken for granted and used as much as imagination will permit.

C. M. Braum
Engineer, Joint Council on Educational Television

IT seems reasonable to predict that videotape will ultimately replace film for use in what we now know as 16mm motion picture projectors. Of course this change will require a radical redesign of equipment, but the outcomes will be dramatic and the advantages considerable. The electronic approach provides a virtually unlimited source of illumination for actual daylight projection in any classroom situation. Central tape depositories will replace film libraries for school systems and districts, and will receive newly released productions via special channel radio broadcasts or transmissions on coaxial cable to enable such subscribers to quickly record the latest items. Once the master tape is made any number of high-speed "dups" can be produced as needed to fill *all* requests from schools on the *exact date* desired. In this way, storage of multiple prints and their attendant obsolescence are eliminated. Splicing-in repair footage also becomes a thing of the past, and inspection is necessary only to remove worn pieces of tape since a new recording is made for each order. In this way, almost the original quality of the production is maintained, since progressive deterioration peculiar to film is substantially reduced with tape.

Limitations of space do not permit really delving into this fascinating subject. The following items still should be covered:

(1) Centralize records on videotape.
(2) Magnetic tape materials for use in still cameras with electronic translators for immediate reproductions.
(3) Maps, charts and graphs recorded on 3x5 sheets of mounted magnetic tape. In use these would be inserted in a slot-like device for reproductions in full color and 3D on the flat classroom viewing screen.

Philip Lewis
Director, Bureau of Instruction Materials, Chicago Board of Education

THE introduction of videotape recording in the field of communication parallels the coming of the jet engine into the field of transportation. Just as the jet engine has introduced a new concept in transportation, so videotape recording will challenge each of us to study and analyze the impact which it will bring in the field of communication. Within the next decade or two, we can anticipate many modifications which will make it possible for videotape to replace film in the transmission of ideas. Only as we grasp the significance and importance of this technological development will we be able to modify our attitudes to accept this medium of communication in our educational activities. Videotape will find its proper place in the constellation of communication's media and will partially or entirely replace our traditional method of communicating by motion picture film.

Ernest Tiemann
Director, Visual Instruction Bureau, The University of Texas

THE videotape recorder is potentially the most promising educational tool for the analysis and improvement of tasks heretofore considered "hopelessly" complex. By this means the learner can perform his task and can, immediately *afterwards,* see and gauge the direction and magnitude of his errors. In other words, the recorder provides the most necessary ingredient in motivated learning–"immediate feedback."

Henry A. Bern
Head, Research Dept., AV Center, Indiana University

THE future of videotape in non-TV applications lends itself very well to "dreaming," as long as one is in a position to ignore two rather important aspects: cost, both initial and upkeep; and the technical skills needed to operate and maintain the equipment.

Any dreams relating videotape recording to

wide usage in any but the wealthiest schools must be predicated upon an impending breakthrough in technical developments which will remove videotape recording from its present costly shackles. Unless videotape is something other than a plastic strip with a magnetic coating, it seems unlikely that costs will be reduced appreciably.

But the new techniques will come; we only lack foresight as to the date. Our dreams should include a challenge to the inventors and designers to hasten the technological progress which will lead to a new, less costly method of ultra-wide-range recording. I believe that the inclusion of this reservation will lend credence to these forecasts and will lead the uniformed not to expect too much from the industry.

Merlyn C. Herrick
Lecturer in Education and
Production Supervisor, Indiana University

I. Videotape will bring picture language much closer to the written word in terms of immediacy and availability. On of the impediments to picture communication is the great time and effort it takes. In the future—letters may be interpersonal face-to-face exchanges, minutes of meetings may be re-enactments of all the subtleties of human interplay, hearing a language will involve much seeing as well as hearing of the learner's performance.

II. Feedback will be greatly enriched by pictures, with perhaps some startling effects. (a) Many of the human inconsistencies and much of the ignorance due to mismatches between verbal labels and the real world will be removed. The correcting and compensating effects of pictorial feedback would be much more readily available and would occur much more frequently if videotape were widely used. (b) What will happen when the human image becomes as familiar to its owner as his handwriting? Will the sight of his own behavior in many situations make him introvert or extrovert, conformer or reformer, follower or leader, well adjusted or maladjusted? Can the student in screening the tape for the previous day take a more detached and dispassionate view of a school situation that was highly charged at the time?

III. In the school situation many uses could be made of videotape. The following presuppose two things: that classroom activities would be fully documented at frequent intervals each year, and these records be so catalogued as to make any unit readily available. (a) Pictorial report cards would provide parents with unique insights into Johnny's behavior. These should probably be screened by parents and teachers together—and perhaps in part with Johnny. (b) Teachers could much more rationally evaluate pupil growth by comparing earlier with later taped performances. (c) Thorough case studies of problem children could be made by retracing the sequence of events through their years in school. Equally important studies could be made of successful children. (d) Teacher training could come out of the ethereal world of books about children and curriculum and learning. Student teachers would already have "been in" many classroom situations, "experienced" individual differences among students, "participated" in discipline problems, etc., via tape before doing it themselves.

If all this should come true, two dramatically opposite outcomes are possible. Tapes could become a benevolent instrument conducive to fuller understanding, respect and support for the teacher. Or they could become a vicious instrument of partisan control of the teacher.

Malcolm Lee Fleming
Instructor in Education and Supervisor of Motion Pictures, Indiana University

ON an evening early in May, Ralph E. Lovell, a member of my seminar at UCLA, was describing for us a new system of editing videotape, developed by himself and others at the NBC studios in Burbank.

A few short months ago videotape was still in the experimental stage. Today it is much in use in television, because it reproduces visual and auditory images with high fidelity and can be edited with precision.

Will videotape and education join hands? Of course they will. But when, where, and under what circumstances none of us can predict. In our feeling of high esteem for the handiwork of the electronics engineers, we must not forget that to a child perceiving an image on the screen, the technique of putting the image before him is not as important as is the image itself. We still need to know much more about how children learn.

F. Dean McClusky
Professor of Education,
University of California, Los Angeles

Some responding experts predicted no real educational future for videotape. Here are their comments

IN view of my complete ignorance in regard to videotape recordings, I am afraid that what I might have to say would perhaps be as enlightening as what glass makers have to say about "Visual Aids." In view of this, for me to attempt to jot down any thoughts that I might have on this subject would be at a disservice to the readers of our magazine.

I really don't know enough about videotape to make any pronouncement. I am hoping to learn more about it and will look forward to seeing what other people have to say in your symposium.

I'm sorry, but I don't think I should participate in your symposium on videotape recording. The reason is that I don't like to take a negative viewpoint, but I have very little faith in the future of videotape recording for educational purposes. I know it will find some sort of a place, but I can't feel that it will be really used, as our present audiovisual media are.

The Videotape Recorder

by Robert A. Miner

Reprinted with permission from the Journal of the National Association of Educational Broadcasters, May, 1959.

IN April, 1956, a new and unexpected invention called a videotape recorder suddenly captured headlines on newspaper front pages, throughout the nation. The influential New York Times, in its front-page article, forecast that "electronic photography" would have implications far beyond the television service for which it had been invented. The excitement in the broadcast industry trade press was nothing less than tumultuous. What, exactly, then, was this new invention — the videotape recorder — which had created such a stir?

In its simplest terms, the videotape recorder is a device which records on a strip of magnetic tape the electrical signals which emerge from a television camera system, very much as the familiar audio tape recorder records on a narrow strip of magnetic tape the electrical signal which emerges from a microphone system. All the things which audio tape recording did for sound, the videotape recorder is capable of doing for television; the machine will record both picture and sound, as it is being picked up in the studio, and immediately replay both picture and sound, without a trace of visible deterioration. Like an audio tape, a television tape recording can be erased, and a new recording placed on the same tape, over and over, as desired. Like an audio recorder, the videotape recorder is push-button operated, and capable of full picture and sound fidelity in the hands of a relatively inexperienced operator. (Maintenance on the videotape recorder, like maintenance on all television equipment, naturally requires the services of a trained expert.) Like an audio tape, a television tape recording can be recorded on one machine and played back on another, or copies of the original tape can be made and played back on many other machines.

Physically, the videotape recorder, as it is manufactured today, consists of a handsome console, a little bigger than a kitchen range, on which the tape is loaded and threaded, and on which are located the meters, dials, and push-buttons with which it is operated, and two cabinets of a size and type found throughout radio and television broadcasting, which contain the electronics chassis that are used to amplify, modulate, and otherwise process the television signals.

In use, the videotape recorder is a convenient high fidelity recorder and reproducer of television sound and pictures, and may accurately be regarded as the television counterpart of the professional high-fidelity sound tape recorder. It is not, of course, a sort of electrical counterpart of a moving-picture camera. Just as the recording of sound requires one or more microphones, artistically placed for best pick-up, videotape recording requires one or more television cameras, artistically placed for best picture pick-up, and, of course, one or more microphones to pick up the sound which accompanies the picture. Just as good sound recordings are "monitored" by experts during the recording session, television tape recordings are monitored by skilled television directors and technicians, to insure good picture recording. The physical equipment required to make a television tape recording is exactly the same as that required to produce a good television broadcast — television camera, television cameraman, studio monitor, and skilled studio monitoring technicians — the difference being that the electrical signal which contains the picture information is fed through cables to the videotape recorder, instead of being fed to a television transmitter. The videotape recorder "remembers" every detail which is fed to it, and will replay, in electrical form, the information it has received through cables, over and over, as desired.

Videotape recording, thus, is a wholly new way of storing moving pictorial information, a memory for the television camera, which does not depend upon chemicals, which is capable of immediate replay, and whose medium can be erased and re-used many times over. In many ways, it is a supplement to motion picture photography, and in other ways, most of them in television, it is a replacement for photography. New functions, which never before could be performed, are now within reach through videotape recording; some functions which photography has handled in the past can now be handled more conveniently and efficiently through videotape recording; and, of course, just as television has not replaced motion pictures, many services, such as theater motion pictures, are unaffected by videotape recording.

The principal application of videotape recording to date has been in the field of commercial television. Most of the performance abilities of this recorder which led to its acceptance by commercial television also lead to applications in the educational television field. Some of these applications have been grouped together and outlined below.

I. Many applications are related to the pre-recording of TV lessons. Such pre-recording applications include the following:

(a) A pre-recorded backlog of TV lessons in each course can be developed for use when the TV teacher is unable to be present for reasons such as schedule conflicts, etc.

(b) The schedules of outside talent will not necessarily coincide with the most desirable time for TV presentation to students. Such schedule

conflicts can be eliminated through pre-recording of programs.

(c) TV lessons will frequently benefit students in another TV area outside of that covered by the originating TV system. Pre-recording of lessons will enable such programs to be viewed outside of the range of a specific TV system without incurring microwave interconnection costs. This is made possible through interchange of tapes from one TV system with a videotape recorder to another.

(d) Pre-recording of TV lessons reduces the inherent pressure of live presentations without losing the impact of live quality.

(e) Pre-recorded TV lessons can be potentially better teaching tools than live presentations inasmuch as they allow a teacher to review her presentation and set the pace of her lesson to meet the requirements of her students. Those portions of a lesson that either drag or move too rapidly can be corrected in advance of playback to the student viewing audience so that the TV instruction can be as nearly perfect as possible.

II. Under different circumstances, it is more advisable to record a lesson simultaneously with its presentation to the student viewing audience. Such applications are as follows:

(a) A series of lesson sequences recorded on the videotape recorder can be built up for loan to other educational institutions.

(b) Many times the scheduled presentation of a TV lesson will not coincide with the most desirable viewing time for all classrooms within a particular TV system. Under these circumstances, it is much easier to record the initial presentation and repeat the lesson at a later time through playback of the recording, rather than a repeat live performance.

III. Recorded lessons, whether they are acquired through pre-recording or simultaneous recording, can either be stored for future use or the tape can be erased and be used for another lesson. In those instances where lessons are stored for future use, additional recorder applications become feasible. The TV lesson series stored on tape can be repeated the next semester or the next year, as the case may be, through playback of recorded tapes, rather than repeating the live TV instruction.

(a) The required up-dating of material in stored TV lessons from one use to another can be accomplished very easily with magnetic tape. This is done either by erasing and re-recording those segments of the total year's teaching that are to be up-dated, or by splicing in new tape sections to replace that portion being up-dated.

(b) The up-dating of subjects from one year to another will not require as much time as the preparation and presentation of the original lesson required. Teaching time of the instructor making the original presentation has therefore been made available for other assignments, such as the teaching of another level of the same subject or a related subject, yet the impact on students viewing the tape playback is identical to the original live presentation.

(c) Area repositories can be established for TV lesson recordings, enabling an evolution to start by using the best teachers in an area to teach a particular subject. Such recordings can then be used by schools in the area according to their own schedule requirements.

IV. A permanent school documentary materials library of recorded tapes can be established for inserting into live lesson presentations to enhance the eductional value of the program.

(a) Significant public events can be recorded on the videotape recorder for retention in this library. Visiting specialists can be recorded. Rare physical, social, economic and similar phenomena and events can also be recorded. Field background information for history, science, industry, etc., can conveniently be recorded for this library on tape.

(b) Laboratory experiments can be recorded under the best possible conditions and at considerable expense when necessary, by large sponsoring organizations. Time, effort and money involved will be justified by the great numbers of students who will be able to view the experiment through many subsequent playbacks of this lesson.

V. The videotape recorder also is a valuable tool for scholastic training and self-improvement of TV teachers. Applications in this category are:

(a) TV lessons can be recorded for post evaluation and study by groups of TV teachers and their classroom counterparts.

(b) TV lessons can be recorded in advance and used as a basis for self-correction, both for the teacher and other members of the production staff, through observing a playback of their lesson in the classroom and noting the effect on students and classroom teachers.

(c) Recorded lessons can be played back for analysis by the teacher and director to eliminate those portions that drag or require strengthening from an educational point of view.

(d) Experimental lessons can be recorded on tape in selected subjects at various grade levels for exchange with other TV teaching projects for purposes of evaluating the content, lesson structure, teaching techniques, etc.

(e) The videotape recorder will also serve as a valuable rehearsal tool to assist TV teachers and the production staff to acquire confidence and the best possible lesson presentation.

VI. There are other applications of the videotape recorder aside from the direct lesson applications outlined above. These include the development of a library containing typical video teaching tapes in a variety of subject areas and grade levels for demonstration uses with:

(a) Parent groups.
(b) Visiting educators.
(c) Service clubs.
(d) Sessions at professional educational meetings.
(e) Teacher-trainees (in-service, teacher colleges, new teachers in county).
(f) Boards of education.
(g) Pre-recording of PTA programs.
(h) Evening adult education subjects.

The foregoing certainly does not represent the total list of applications for videotape recording in the field of educational television. It is meant only as a stimulus to examining the possibilities of this new electronic tool to determine its correct role in assisting educationally or economically any particular teaching endeavor.

Flooded area as seen from the Bureau of Visual Education looking across East Blvd.

by John Borza

Get AV Out of the Cellar!

FOUR months ago, a disastrous flood invaded the Bureau of Visual Education of the Cleveland Public Schools. A three-hour rain ruined approximately half a million dollars worth of audiovisual equipment and supplies, to say nothing of the damage done to the building, furniture, supplies and other installations.

The building housing the Bureau, formerly the School of Education of Western Reserve University, was more than adequate to carry on the following operations:

(1) On the second floor was the sound motion picture production studio and complete photographic processing, graphic arts and special audiovisual equipment maintenance;

(2) On the first floor were two screening rooms, conference rooms and general and administrative offices;

(3) In the basement major operations were carried on. Here were facilities for housing and storing all equipment and materials used for circulation in our schools: 5,756 motion picture prints; 14,852 filmstrips; over 300,000 3¼x4 slides; 5,069 2x2 slides; 1,580 study prints; 575 exhibits; 247 pieces of sheet music; 66 sound motion picture projectors; 37 silent motion picture projectors; 109 combination 2x2 and filmstrip projectors; 13 opaque projectors; 15 tape recorders; 8 sound filmstrip projectors; 11 various types of automatic audiovisual equipment; 73 screens in sizes from 50x50 to 8x10 ft.; 61 various pieces of audiovisual and photographic equipment.

Doan Creek, which runs through the University Circle park system, was at one time open. While the creek was still open, the undeveloped acres of the highlands absorbed most of the rain water. Even after the creek went underground the culvert was large enough to carry away the excess rainfall. However, within the last five years the suburbs in the highlands have expanded at a tremendous rate. Insufficient sewage development was first felt three summers ago when, after a heavy rain, the culvert could hold no more water and the storm sewers backed up.

At that time, the gymnasium at the Bureau held about 1500 pieces of audiovisual equipment recently serviced and ready for the September opening of schools. The five summer servicemen had their job to do over, but they were able to salvage all this equipment because it was not completely submerged.

Preventive measures were taken by installing sewer back-up traps and a sump pump. These preventive installations were effective and apparently took care of ordinary conditions.

However, on June 1 of this year for a period of three hours, four inches of rain fell on the higher grounds over an area of 8.6 square miles. Because the ground could not absorb this unusually heavy rainfall and because of inadequate sewage facilities, the water followed the only course left—down the roads and hillsides and into the University Circle area at the rate of 2,860 cu.ft. per second.

The back-up sewer traps held the water from coming into the building, but the water rose above the basement window sills. The pressure became so great that it burst the windows and doors and demolished two interior walls.

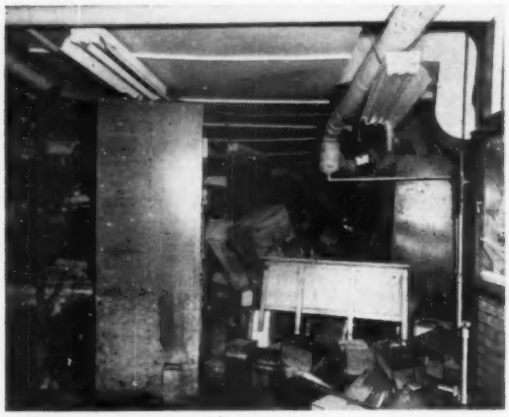
During the height of the flood, the water in the Bureau of Visual Education building measured 17 feet. The waters receded during the night and the next morning we were greeted by a sea of mud surrounding the building. Slides, exhibits and filmstrips were picked up for blocks in the surrounding neighborhood.

Realizing that the water-soaked equipment was a total loss, our immediate problem was to salvage as much material as possible. Fortunately there is a 16mm film processing plant in Cleveland. All the motion picture films were rushed to Labcraft for cleaning. With the purchase of an outdoor swimming pool it was possible to keep the films under water until they could be put through the continuous-processing machine. By keeping the films wet the silt from

Water rising above basement window sills.

Pressure bursts windows and doors: demolishes two interior walls.

Equipment loan pool – before.



Equipment loan pool – after.

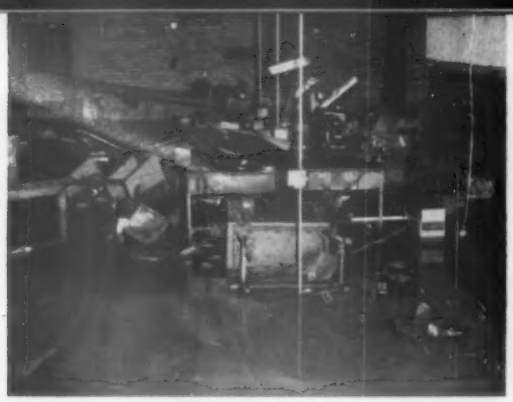
Slide and exhibit room – before.

Slide and exhibit room – after.

Equipment maintenance shop – before.

Equipment maintenance shop – after.

Film inspection room — before.



Film inspection room — after.

Materials were often found blocks away.

Swimming pool preserved wet films until they could be processed.

the flood waters could not dry and impregnate the emulsion.

Temporary quarters for film inspection were immediately set up at the Bureau of Visual Education, where film inspectors checked all salvaged films and spooled them onto new reels and placed them in new cans. This measure was necessary because rust had already set in on the old ones. Salvaging of colored film continued for eight days before the emulsion deteriorated. Black and white film lasted for ten days. A total of 3,674 prints were caught in the flood and our loss was 1,314 prints. We salvaged a total of 1,097,162 feet of film at a cost of one cent per foot.

The filmstrip salvage operation was similar. Many hands were needed to do the work as soon as possible. Sixteen students were hired from a nearby high school. They worked four hours every day after school. Photo-developing trays were filled with water and a wetting agent. The filmstrips were swished through the trays and then squeegeed and hung up to dry. The next job was to identify and label the salvaged filmstrips and put them into new plastic containers. The students handled 10,830 filmstrips, and of this number 90 percent were recovered. However, 2,754 filmstrips were never found again after the waters receded.

The loss of the models and exhibits, made by the W.P.A., cannot be measured in money. The real value was in the popularity of this material with elementary children.

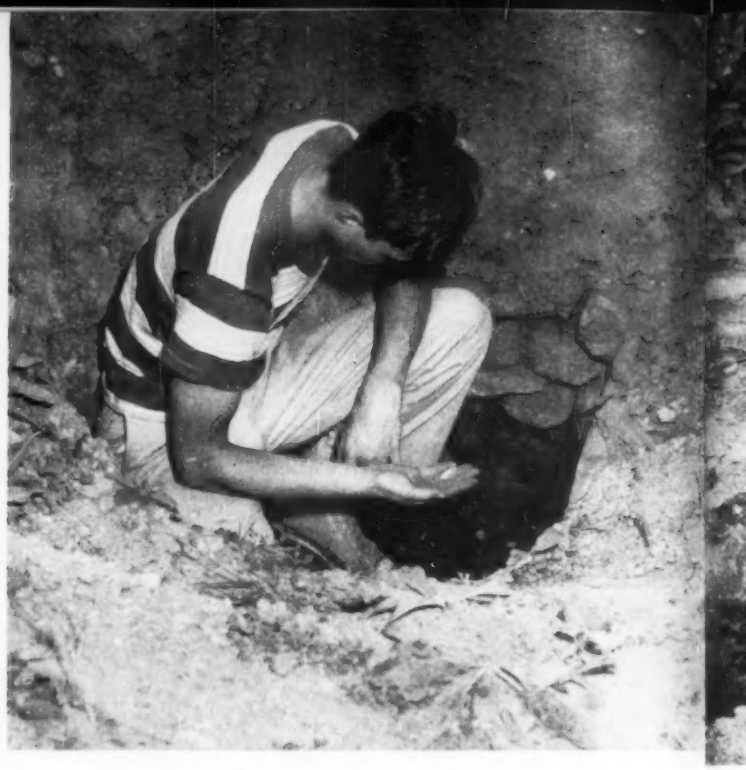
Nor can a dollar and cents value be placed on the 3¼ x 4 and 2x2 slides. If it were possible to replace all the lost slides, the raw materials needed would cost more than $306,000. The replacement cost of the filmstrips is about $19,500. The replacement cost of motion picture films is about $78,000. The replacement cost of the audiovisual equipment is about $59,000. Maintenance parts and equipment have been replaced at a cost of about $15,000.

Just before the disastrous flood struck we were preparing for our summer equipment maintenance work. Repair parts for this job had already been received and they were completely inundated. Thousands of dollars worth of equipment parts were saved by soaking them in penetrating oil. The audiovisual equipment that was caught in the flood waters was a total loss and is now waiting to be cannibalized for usable parts. In the meantime, temporary quarters were set up in order to carry on maintenance work.

Plans are now being made to house all of the Bureau of Visual Education operations above the basement level. The Cleveland Board of Education does not carry insurance so that the replacement of all lost materials and equipment is being made from the Replacement Fund.

We in Cleveland hope that other school systems will benefit from our sad experience. There is no time like the present to take a second look at the housing of your audiovisual equipment and teaching materials. If they are stored in a basement, as it seems in too many cases, what are the probabilities that they too could be caught by the waters from a flash flood?

Students Bring History to Light



by Gilbert Hagerty

GILBERT Hagerty started this work because he is deeply interested in archeology. By a combination of historical and geographical reasoning he believed that there had to be an overnight stopping place for travelers along the natural waterways connecting the developing West with the established Hudson Valley. Where else but along the Great Oneida Carry, where water travel was interrupted for a portage? In this area Mr. Hagerty dug.

Soon his students joined him at the digging. In the recently completed state-wide Essay Contest for students and teachers, conducted by the New York State Commission on Historic Observances in connection with the 350th anniversary of the explorations of Hudson and Champlain, Mr. Hagerty submitted the following summary of his class activity.

Because this is exceptional, inspired teaching, the editors of EDUCATIONAL SCREEN AND AUDIO-VISUAL GUIDE bring this story to you as a superb example of the use of the field trip in instruction—a field trip which resulted in discovering the site of a colonial pioneer's home.

By virtue of the location of the digging it can be assumed that the colonial owner was directly connected with water transportation in the days of the bateaux—preceding the construction of the Erie Canal. By virtue of the artifacts already unearthed—clay pipes, a wide variety of pottery, glassware and the stems of glasses, as well as pewter, iron and silverware, it can be assumed that this indeed was the site of an Inn of the earliest days of the American Republic . . . probably the Inn at which DeWitt Clinton stayed when he first dreamed of a continuous waterway connecting east and west.

Mr. Hagerty was a winner in the contest—and spent two weeks in The Netherlands as a representative of the New York State Commission on Historic Observances investigating and verifying his discoveries. But this is not all—the new Fort Stanwix Museum in Rome, New York, was opened on August first of this year. It is an immediate and direct outgrowth of Mr. Hagerty's work—and he has been named Director. Sic Semper audiovisualists!

—Max U. Bildersee

For 170 years a fascinating story has been hidden in our community – hidden so well that no hint of its presence was discovered until the fall of 1958. Then it was by sheer chance that we, with the help of student groups, were able to save it from complete oblivion.

This story was written in hallowed ground which was literally being carried away for fill because the owner did not know what he was destroying, and no one had hitherto recognized its importance. But because of our action this destruction has been stopped, and cooperation of the owner has made careful archaeological investigation possible. We now have most of this story, complicated as it is, as it was recorded in the earth between the years of 1789 and 1805.

Because of its geographic location on the Great Oneida Carry, with its associations of colonial troop movements, fur trade and Indians, this site is of tremendous significance not only locally, but in the development of the waterway system from the western frontier to the sea. It was the focal point for the thousands who crossed from the Mohawk to Wood Creek and the West.

Because nothing in addition to the standard county histories has been recorded about this area for many years and scarcely any new information gained from primary research, we intuitively felt that this location should reveal something of importance. We were not wrong.

Briefly, our project is an archaeological one involving discovery and original research in

Students George Gibson and Lynn Hagerty studying a piece of crockery found in a well and a stratification shown indicating occupation levels.

Oneida County history. Preliminary investigations on a strategic plot of ground, ripped and torn by a bulldozer, showed evidences of an 18th century pioneer dwelling. This evidence places the occupation at a time when there were but seven or eight dwellings of whites between Whitestown and Oswego, and most of them were primitive huts. This we have from the report of a reliable eyewitness who was through the territory at that time. This spot we are investigating was the site of one of these dwellings, erected soon after the Revolution.

When the site was first discovered, we gathered every bit of material from the exposed surface. Since the ground was disturbed generally about a foot down from the surface and since there were three components in this general area, we were faced with the problem of classification. We filled wax milk cartons with this material and labeled them "general surface finds." We soon learned to distinguish the difference between the type of artifact we found on one end of the site from those found on the other end where there were two other occupations. In the fringe areas the materials, of course, were mixed. Fortunately there were still about fourteen inches of undisturbed soil to be examined in many areas where the bulldozer had just scuffed off the surface.

These areas of undisturbed soil were carefully examined, stratigraphy plotted, photographed, and the artifacts kept separate. Each area was coded and the artifacts labeled with the code mark. This gave us a core of information that we felt was valid in forming preliminary conclusions. The stratigraphy clearly showed that this ground had never been plowed or in any way disturbed before the bulldozing began.

Among the more interesting items found in the undisturbed stratification were many brass and pewter buttons of varying sizes, both plain and with ornamentation; quantities of koalin pipe bowls and stems with a profusion of identifications as makers' marks and bowl designs; shards of household dishes with the characteristic 18th century blue figures on cream background, some of which we were able to reconstruct in part; several silver and brass coins ranging from the reign of George II through 1796, of British, Spanish, and American origin; iron axes, one a British military broad axe; ironware as crane hooks, hinges, hand forged nails, ox shoes, horse shoes, fragments of iron kettles, knives, bone handled forks with two tines; pewter spoons; glassware with pontil marks; personal ornaments; lead musket balls, gun flints; even a brass bung from a barrel, an exact duplicate of one found at Crown Point; and parts of many other items common to a pioneer household.

Of a more general nature we were able to determine the location of the building, once the long concealed well was found. There was no foundation to the house, only a dirt floor. A concentration of brick rubble and charred boards gave us the location of the hearth. Associated with charred boards were many short pointed sticks, the remains of burned saplings, aligned in a row, a foot under the ground and over the rotted and charred boards – dramatic evidence of the conflagration that brought them crashing in flames to the ground to be covered by smouldering debris. Here we have a suggestion of how the dwelling was constructed. Fragments of broken window glass and hand forged nails added to our information.

Animal bones scattered through the general debris gave an indication of the diet. Deer bones were prominent as were bones and teeth of other large wild and domestic animals. Salt water clam and oyster shells were abundant

Sifting previously disturbed areas for artifacts – left to right, Jim Butler, Bob Osgood, Ronnie Hart.

and in direct association with known 18th century materials. One wonders how these shellfish could be fit to eat after arriving here in the wilderness after the long trek from their nearest point of origin, New York City. One of our students found a reference showing that the Dutch as early as 1690 were pickling oysters in New York and sending them in casks to the Barbados in a thriving trade.

By correlating our information through scientific methods, we were stimulated to do further research in documentary sources. Gradually scraps of documentary evidence grew until we had a body of information to check with our archaeological findings. The documentary evidence and the archaeological evidence fitted beyond the point of coincidence. The cold statistical facts and the book passages lived.

The two remaining occupations suggesting the 19th century were identified by examining old maps. The maps told us that there were two inns at these points – one prior to 1850 and the other prior to 1876. One of our group found a reference in a letter by Dewitt Clinton stating that he had a fine dinner at an inn in this immediate area in 1810. The description of its location fits our site. The whole area has now been mapped and each component identified.

When enough samples of all this material had been gathered, some students who had taken part in the various expeditions were given a choice of the areas they wished to investigate further. For instance, one chose to make a study of the coins which had been found; another sorted out all the various samples of dish fragments to determine the variety of dishes, the number of kinds of dishes, and to make a frequency distribution of the occurrence of design types in order to determine the most common type of dish used. Comparisons were then made with dishes of known dates. The crinkle edge type with blue or green slip on cream seemed to predominate. We found that this type of dish appeared frequently on British camp sites of the Revolutionary period in the New York City area; and while not abundant, they also appear at Crown Point on Lake Champlain. Crown Point was not occupied after the Revolution. Further study showed us that a goodly proportion of other dish types that were found also fall into the Revolutionary period.

We have first hand information from two other local sites with Indian associations that yield these same types of wars. This information will help us to place a time span on these sites in future investigations.

Another student chose to make a study of the glassware fragments, which appeared in a wide variety and most of which show the pontil-mark which is characteristic of 18th century hand blown glass. Another chose to study the buttons on the basis of type, design, construction, and time span. It is interesting to note here that we have one cast pewter military button of a Revolutionary soldier, with U S A on its face; the S intertwines with the U and A. By and large they all fall into the 18th century period.

The iron work interested another student, the kaolin pipes, another. Comparison of the knives and two-tined forks and the pewter ware with known 18th century types that have been found in debris of Revolutionary sites and which are to be found in museums offered a challenge. For our information on the kaolin pipes we are indebted to Mr. H. G. Omwake, an authority on the subject. The range of bowl ornamentation, stem bore, and makers' marks are all significant in determining their age span. Of 31 more or less complete bowls we have 21 with a 5/64" stem bore. The 5/64" stem bore was popular in English pipes from 1750 to 1800. The 4/64" bore was popular from 1800 on. We have 10 of these bowls. Again this strong statistical evidence points to the 18th century. One curious bowl has many Masonic emblems on it.

A student who was involved in nearly every group field trip and who had taken many of her own, set out to make some interpretations of her own. They were checked against the documentary evidence.

Not only have the scientific aspects of this project been intriguing, but the creative aspect of the work is shown by a short story by one of our group, based on the suggestions stimulated by our finds.

The archaeological evidence tells only part of the story. Many blank spots are filled in with documentary facts, but we examined details closely and consulted many sources. Our first clue came from a reference that stated very briefly that a Mr. X came to this area in 1789 and was one of the very first after the Revolution to take up residence at a point we can easily recognize today by the topographical features given. They match our site. This same Mr. X was listed as the head of a family in 1790 in this area when the first U. S. census was taken.

(*Continued on page* 559)

A Report to Educators...

...concerning one of the most significant new answers to the great challenge of...

SPACE AGE EDUCATION

The Complete Course-on-Film in INTRODUCTORY PHYSICS

taught by: Dr. Harvey E. White — Vice-chairman of the Department of Physics, University of California

12,000 high school students in **500** classrooms where teachers use this complete course on film have received their physics instruction via films during the last two years....

* The following pages document this unprecedented teaching film distribution record with far greater conviction than any further words we could offer...

*The following schools, systems and film libraries have purchased and/or are now using

ALABAMA

Board of Education
Ensley High School
Birmingham, Alabama

ARKANSAS

State Department of Education
Little Rock, Arkansas

Arkansas Agricultural and Mechanical
Library Building
Monticello, Arkansas

- A&M College
  Monticello, Arkansas
- Crosset Public Schools
  Crosset, Arkansas
- Hamburg Public Schools
  Hamburg, Arkansas
- Lake Village Public Schools
  Lake Village, Arkansas
- McGehee Public Schools
  McGehee, Arkansas
- Star City Public Schools
  Star City, Arkansas
- Dermott Public Schools
  Dermott, Arkansas

CALIFORNIA

Grant Union High School District
Del Paso Heights, California

El Dorado, Amador & Calaveras
County Schools
El Dorado, California

- Tahoe High School
- Placerville High School
- Sutter Creek High School
- Calavaras High School
- Ione High School

Solano County Schools
Audio-Visual Department
Fairfield, California

- Dixon High School
- Rio Vista High School
- Vacaville High School
- Fairfield High School

Alameda County Schools
Oakland, California

- Emeryville High School
- Amador High School
- Hayward High School District
  (2 schools)

Los Angeles County Schools
Audio-Visual Department
Los Angeles, California

East Side Union High School District
San Jose, California

Santa Clara County Schools
San Jose, California

Orange County Schools
Santa Ana, California

Plumas Unified Schools
Quincy, California

Glen County Schools
Willows, California

- Willows High School
- Orland High School
- Hamilton City High School

COLORADO

University of Colorado
Bureau of Audio-Visual Instruction
Boulder, Colorado

- Mapleton High School
  Denver, Colorado
- Academy High School
  Colorado Springs, Colorado
- Cripple Creek High School
- Monte Vista High School
- Delta High School
- DeBegt High School
- Akron High School

State Department of Education
Frank E. Heckey
Deputy Attorney General
Denver, Colorado

- Gramby High School
- Kremmeling High School
- Mosta High School
- San Luis High School
- Cheyenne Wells High School
- Arriva High School

Colorado State College
Instructional Materials Center
Greeley, Colorado

- Greeley High School
- Eaton High School
- Fort Collins High School
- Laboratory High School
  (College of Education)

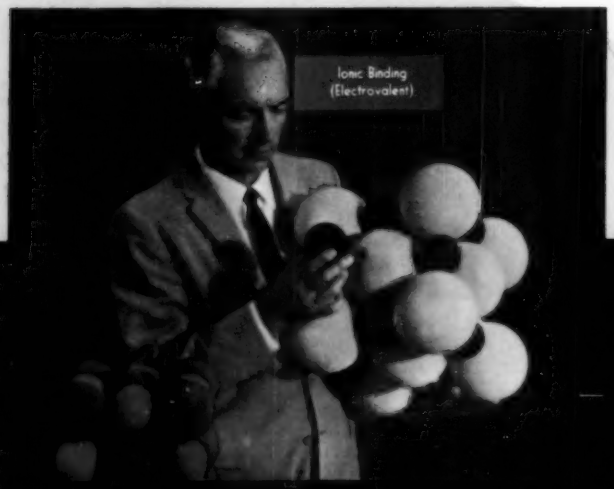
FLORIDA

Duval County Board of Instruction
Jacksonville, Florida

- Baldwin High, Jacksonville
- Alfred I. DuPont, Jacksonville
- Englewood High, Jacksonville
- Duncan Fletcher High,
  Jacksonville Beach
- Andrew Jackson High
  Jacksonville
- Julia Landon High, Jacksonville
- Robert E. Lee High, Jacksonville
- Terry Parker High, Jacksonville
- Paxon Senior High, Jacksonville
- Technical High, Jacksonville
- New Stanton High, Jacksonville
- New School #155, Jacksonville

State Department of Education
Tallahassee, Florida

Hillsborough County Board
of Public Instruction,
School Materials Center, Tampa, Fla.



GEORGIA

Atlanta City Schools
Atlanta, Georgia

State Department of Education
Atlanta Film Library
Atlanta, Georgia

- Marietta High School
  Marietta, Georgia
- Thompson High School
  Thompson, Georgia
- Rome High School
  Rome, Georgia
- Cartersville High School
  Cartersville, Georgia
- Jonesboro High School
  Jonesboro, Georgia
- Athens High School
  Athens, Georgia

State Department of Education
Collegeboro Film Library
Collegeboro, Georgia

- Glennville High School
  Glennville, Georgia
- Portal High School
  Portal, Georgia
- Nahunta High School
  Nahunta, Georgia
- Jeff Davis High School
  Hazlehurst, Georgia
- Trautlen High School
  Saperton, Georgia
- Folkston High School
  Folkston, Georgia

State Department of Education
Macon Film Library
Macon, Georgia

- Wrightsville High School
  Wrightsville, Georgia
- Warner Robins Senior
  High School
  Warner Robins, Georgia
- Jones County High School
  Gray, Georgia
- Sandersville High School
  Sandersville, Georgia
- Lanier Senior High School
  Macon, Georgia
- Crawford County High School
  Roberta, Georgia

State Department of Education
Tifton Film Library
Tifton, Georgia

Turner County High School
Ashburn, Georgia

Climax High School
Climax, Georgia

- Lee County High School
  Leesburg, Georgia
- Broxton High School
  Broxton, Georgia
- Pavo High School
  Pavo, Georgia
- Shellman High School
  Shellman, Georgia

ILLINOIS

Eastern Illinois University
Charleston, Illinois

- Beardstown High School
  Beardstown, Illinois
- Champaign High School
  Champaign, Illinois
- Mattoon High School
  Mattoon, Illinois
- Cumberland High School
  Toledo, Illinois
- Urbana High School
  Urbana, Illinois
- Altamont High School
  Altamont, Illinois

Northern Illinois University
DeKalb, Illinois

- Liberty High School
  Liberty, Illinois
- Seneca High School
  Seneca, Illinois
- DeKalb High School
  DeKalb, Illinois
- Cornell High School
  Cornell, Illinois
- Macomb High School
  Macomb, Illinois
- Marseilles High School
  Marseilles, Illinois
- Toluca High School
  Toluca, Illinois

Sangamon County Film Library
Springfield, Illinois

KANSAS

Kansas State Teachers College
Emporia, Kansas

- Peabody Public Schools
  Peabody, Kansas
- Ottawa University
  Ottawa, Kansas
- Garnett Public Schools
  Garnett, Kansas
- Roosevelt High School
  Emporia, Kansas
- College of Emporia
  Emporia, Kansas
- Burlington Public Schools
  Burlington, Kansas

University of Kansas
Lawrence, Kansas

- Shawnee Mission High School
  Mission, Kansas
- Arkansas City High School
  Arkansas City, Kansas
- Anthony High School
  Anthony, Kansas

Kansas State Teachers College
Pittsburg, Kansas

- Altamont Schools
- Pittsburg Schools
- Fort Scott Schools
- Parsons Public Schools
- Cherokee Consolidated Schools
- St. Mary's Catholic High School
- Kansas State Teachers
  Laboratory School

LOUISIANA

State Department of Education
Baton Rouge, Louisiana

MARYLAND

Board of Education of
Washington County
Hagerstown, Maryland

CHEMISTRY

an introductory course

SETTING A SIMILAR PATTERN

The EBF Complete Course on Film . . . in

INTRODUCTORY PHYSICS:

MICHIGAN

Northern Michigan College
Public Service Center
Marquette, Michigan

- Escanaba Senior High School
  Escanaba, Michigan
- Gladstone Public Schools
  Gladstone, Michigan
- Ishpeming High School
  Ishpeming, Michigan
- Crystal Falls Public Schools
  Crystal Falls, Michigan
- Graveraet High School
  Marquette, Michigan
- Stephenson Public Schools
  Stephenson, Michigan
- Iron River High School
  Iron River, Michigan

Warren Public Schools
Warren, Michigan

Fitzgerald Public Schools
Fitzgerald, Michigan

Van Dyke Public Schools
Van Dyke, Michigan

MINNESOTA

Detroit Lakes Public Schools
Detroit Lakes, Minnesota

- Moorhead Public Schools
- Wadena Public Schools
- New York Mills Public Schools

St. Louis County Schools
Duluth, Minnesota

- Clover Valley High School
  Two Harbors, Minnesota
- Alborn High School
- Cotton High School
- Embarrass High School
- Brookston High School
- Meadowlands High School
- Alango High School

Montevideo Public Schools
Independent School District #129
Montevideo, Minnesota

- Independent School District #373
  Dawson, Minnesota
- Independent School District #376
  Marietta, Minnesota
- Independent School District #129
  Montevideo, Minnesota
- Independent School District #894
  Granite Falls, Minnesota
- Independent School District #375
  Madison, Minnesota
- Independent School District #776
  Appleton, Minnesota

MISSISSIPPI

North Mississippi Physics Course Film Cooperative #1
University of Mississippi
University, Mississippi

- Corinth High School
  Corinth, Mississippi
- Tupelo High School
  Tupelo, Mississippi
- Columbus High School
  Columbus, Mississippi
- Amory High School
  Amory, Mississippi
- West Tallahatchie School
  Webb, Mississippi
- Quitman County Schools
  Marks, Mississippi

North Mississippi Physics Course Film Cooperative #2
University of Mississippi
Houston, Mississippi

Holly Springs Public Schools
Holly Springs, Mississippi

(Bolivar County) Dist. IV Schools
Cleveland, Mississippi

Greenville Public Schools
Greenville, Mississippi

Western Line Consolidated School District
Glen Allan, Mississippi

University of Mississippi
Oxford, Mississippi

MISSOURI

Southeast Missouri State College
Audio-Visual Center
Cape Girardeau, Missouri

University of Missouri Extension Division
Columbia, Missouri

NEBRASKA

University of Nebraska
Bureau of Audio-Visual Instruction
Extension Division
Lincoln, Nebraska

NEW YORK

Catskill Area Project in Small School Design
State University Teachers College
Oneonta, New York

- Andes
- Andrew S. Draper (Schenevus)
- Cherry Valley
- Delhi
- Downsville
- Edmestom
- Franklin
- Gilbertsville
- Grand Gorge
- Hancock
- Margaretville
- Milford
- Morris
- New Berlin
- Otego
- Richfield Springs
- Roxbury
- South Kortnight
- South Otselic
- Springfield
- Stamford
- Unadilla

NORTH CAROLINA

Charlotte City Schools
Mecklenburg County Schools
Charlotte, North Carolina

Fayetteville City Schools
Fayetteville, North Carolina

Guilford County Schools
Greensboro, North Carolina

Duplin County Board of Education
Kennansville, North Carolina

Craven County Board of Education
New Bern, North Carolina

- Dover High School
  Dover, North Carolina
- Farm Life High School
  Advanceboro, North Carolina
- Havelock High School
  Havelock, North Carolina
- Jasper High School
  New Bern, North Carolina
- Newbold Training School
  New Bern, North Carolina

OKLAHOMA

Oklahoma City Public Schools
Oklahoma City, Oklahoma

- Conowa Public Schools
  Conowa, Oklahoma
- Pocasset Public Schools
  Pocasset, Oklahoma
- Minco Public Schools
  Minco, Oklahoma
- Union City Public Schools
  Union City, Oklahoma
- Marshall Public Schools
  Marshall, Oklahoma
- Elmore City Public Schools
  Elmore City, Oklahoma
- Crescent Public Schools
  Crescent, Oklahoma
- Moore Public Schools
  Moore, Oklahoma
- Garber Public Schools
  Garber, Oklahoma
- Covington Public Schools
  Covington, Oklahoma
- Velma-Alma Consolidated Schools
  Velma, Oklahoma
- Washington Public Schools
  Washington, Oklahoma

OREGON

Oregon State System of Higher Education
Department of Visual Instruction
Oregon State College Campus
Corvallis, Oregon

- Philomath High School
  Philomath, Oregon
- Bethel High School
  Eugene, Oregon
- Eugene South High School
  Eugene, Oregon
- Independence High School
  Independence, Oregon
- Stayton High School
  Stayton, Oregon
- Silverton High School
  Silverton, Oregon
- Milwaukie High School
  Milwaukie, Oregon
- Reynolds High School
  Troutdale, Oregon
- David Douglas High School
  Portland, Oregon

PENNSYLVANIA

Pennsbury Schools
Fallsington, Pennsylvania

Central Dauphin Joint Schools
Harrisburg, Pennsylvania

Pennsylvania State University
Extension Services
University Park, Pennsylvania

SOUTH CAROLINA

Beaufort School District #1
Beaufort, South Carolina

Cooper River School District #4
Charleston, South Carolina

Horry County Board of Education
Conway, South Carolina

Spartanburg City Schools
Spartanburg, South Carolina

TENNESSEE

George Peabody College for Teachers
Nashville, Tennessee

- Robertson County Schools
  Davidson County Schools

Tennessee State Dept. of Education
Nashville, Tennessee

UTAH

Brigham Young University
Provo, Utah

VERMONT

Goddard College
Plainsfield, Vermont

- Greensboro High School
  Greensboro, Vermont
- Plainfield High School
  Plainfield, Vermont
- Marshfield High School
  Marshfield, Vermont
- Cabot High School
  Cabot, Vermont
- Braintree—Randolph Union High School
  Randolph, Vermont
- Waterbury High School
  Waterbury, Vermont
- Waitsfield High School
  Waitsfield, Vermont
- Northfield High School
  Northfield, Vermont
- Bradford Academy
  Bradford, Vermont
- Newbury High School
  Newbury, Vermont
- Johnson High School
  Johnson, Vermont
- Hardwick Academy
  Hardwick, Vermont
- Craftsbury Academy
  Craftsbury, Vermont

WASHINGTON

Pierce County Schools
Tacoma, Washington

WISCONSIN

University of Wisconsin
Madison, Wisconsin

EVALUATION STUDIES ON NEXT PAGE ▶

Available for only one year, the Chemistry Course on Film with John F. Baxter, has already met with enthusiastic teacher response in classrooms throughout the United States. Teachers say that it is more than meeting the expectations of Dr. John C. Bailar, Jr., President, The American Chemical Society: "...it is our hope that this course on film will make it possible for the high school instructor to offer a kind of instruction in chemistry which can dramatically improve the teaching of this increasingly important subject."

EBF FILMS

"THE GREATER GAIN!"

Major Evaluation Studies Show Tangible Benefits of Complete Courses on Film...

The objective findings of the major studies are proving the merits of the Complete Courses on Film. In approaching the studies, it is important to keep these basic facts (researched by National Academy of Sciences) in mind: 50 per cent of what we know in chemistry has been discovered or developed in the past 30 years. And . . . 90 per cent of what we know in physical science has been learned since 1940. How much modern physics and chemistry teaching essential to *Space-Age Education* is reaching the classroom? The bearing of this information is further amplified by a committee member for the *Fund for the Advancement of Education*, in writing about the results of the Chicago Study in Physics: "While these standard achievement tests (used in determining results) are based on typical high school courses in physics, the content taught in the film course is considerably greater, the inference being that students taught with film learn more physics though this is not always reflected in standard achievement tests."

The full-year courses on film are, therefore, answering the vital need for concentrated learning of greater amounts of scientific information . . . in a shorter time . . . by more students.

The Major Studies and Projects:

Pilot Study—Science Research Associates—Introductory Physics on Film

Evaluation study—July, 1958—in 49 high schools—1,161 students. Films were projected in the classroom.

"The results of the overall analysis showed a statistically significant difference between the gain-scores of those taught by the film method and those taught by the traditional method. Those taught by the film method had the greater gain."

The Chicago Study—Introductory Physics on Film

Group tested: 117 Chicago Public High School students completing two full semesters of Physics on film. Films were shown via TV. Test instrument: Dunning Physics Test (Form BM). National percentile norms established by tests in 19 states, 77 high schools, 2,181 students.

Average scale score: Chicago group, 124. National percentile rank: 78.

Comment by Chicago Committee: "The average IQ of our group was 116, while that of the whole group participating (national norm group) was 114. Hardly a sufficient difference to explain the very gratifying achievement of our group of 117 students . . ."

American Institute of Physics—A Study of the Teaching of Physics by Film and Television

Evaluation program carried out during 1957-58. Conclusions are based upon personal observation by advisory committee members, by interview, by teacher-administered standardized achievement tests, and by teacher and student questionnaires.

While no statistically significant difference has been found . . . in the acquisition of facts of physics, there is a statistically significant difference in the ability to apply scientific principles to new situations in favor of the film group.

The Wisconsin Physics Film Evaluation Project

Conducted at University of Wisconsin, 1957-58, under grant from the Fund for the Advancement of Education. Participating: Sixty non-metropolitan high schools in Wisconsin—1,332 students. The Films were projected in the classroom.

Film-taught students were compared with control students on special tests containing the additional material found in the films. Results: significantly in favor of film-taught groups.

Fund for the Advancement of Education—Rocky Mountain Project—Aspen, Colorado

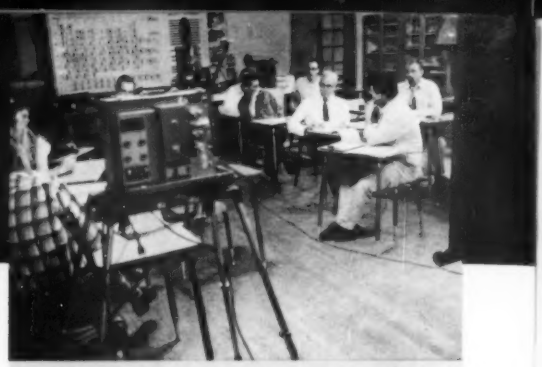
June, 1959—Although directed toward exploring the benefits to small schools with special regard to adequate curriculum coverage, the project findings are applicable in principle to schools and systems of any size.

Report from Colorado Teacher-of-the-Year: *At close of year, achievement testing (in Chemistry) revealed that classes using films placed eleven percentile points higher than classes taught the previous year without the films . . . further, that the classes of the previous year had a higher average IQ.*

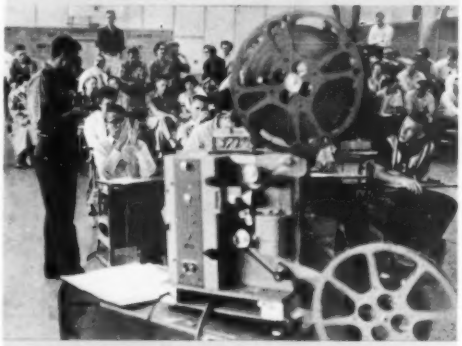
For addresses of where to write for copies of the published studies or complete summaries of them, contact . . .

ENCYCLOPAEDIA BRITANNICA FILMS

1150 Wilmette Avenue · Wilmette, Illinois



Brain-storming Session—Science teachers discuss aspects of filmed courses. Some questions: How much math needed? Teacher preparation before showing? Concepts? This and other illustrations here taken at Rocky Mountain Project—June, 1959.



Teaching demonstrations—Teacher demonstrates how film can be stopped to make comments, answer questions, then continued. Classroom teacher is free to handle special learning situations, check understanding.

Ervin L. Cline, Arriba (Colorado) High School, makes evaluation of effectiveness of Student's and Instructor's Manuals.

Teacher Committee examines suggested test questions furnished in Teacher's Manuals.

Criteria For

AV Equipment

The second and concluding article by Mr. Fayen, intended to provide those in charge of buying school audiovisual equipment with a detailed, down-to-earth set of selection standards. (See page 476 of the September issue)

by Philip Fayen

16MM PROJECTORS

a. Are the arms sufficiently long to accommodate a 1600-foot reel?

b. Does it have a reverse switch?

c. Does it have a sound-silent switch so both silent and sound films, which run at different speeds, can be used?

d. Have you decided whether special features are needed or desirable, such as variable speed or permanent lubrication?

e. Does it have a clutch? (A clutch on an ordinary projector is not needed in most cases. It will give a dull picture if completely stopped on a single frame and will burn the film if only slowed down because the fire wall has not been entirely lowered. If stopping or slow motion is needed, for football or baseball training films for instance, there are special purpose projectors which fit the bill perfectly and whose prices are fairly reasonable. Anyway, you can request the factory to remove the clutch control.)

f. Does the intensity of illumination, as determined by a light meter reading, show it meets the minimum recommended? (If the projector has a 2" focal length lens which is focused on a 45 x 60" beaded screen 27 feet away, then there should be a screen brightness of 10 foot-lamberts, or reflected light. This is measured by holding the light meter close to the screen to catch only reflected light—not in the projector's path— in a darkened auditorium having one-tenth foot candle reading before testing projector, as recommended by the Society of Motion Picture and Television Engineers.)

g. If you have no light meter, does the projector have a rating of 750-1000 watts? (If the screen brightness is insufficient, the tonal quality of the picture is reduced; if the picture is too bright, it causes optical fatigue and a seemingly washed-out picture.)

SLIDE AND FILMSTRIP PROJECTORS

a. Are the two functions of the projector easily interchangeable, with no tools needed?

b. When set up as a slide projector, will it accept an automatic slide changer?

c. When testing filmstrip function, does there appear to be any damage, such as film streaks, scratches, or torn perforations, after having turned a full filmstrip through?

d. Are there 10 foot-lamberts registered on the light meter using a 3" focal length lens focused on a 60" x 45" beaded screen which is 17 feet away?

e. If you have no light meter, does the projector have a power rating of 350-500 watts?

OPAQUE PROJECTORS

a. Will it accommodate material up to 10" square?

b. Does the temperature of the projected material desirably cease to rise in from two to five minutes? (Tape a mercury thermometer to heavy black paper the size of the projected area and have its mercury reading upward so it can be read on the screen. Another and less severe test is to use gray paper using the thermometer for the same reason; gray paper will absorb less heat than black paper so the reading should be lower and less harsh.)

c. Is the fan of the down-draft type and not updraft so that light pieces of material will not be blown away?

d. Does the projector have a power rating of approximately 1000 watts?

e. Is there a control, easily accessible, for an arrow indicator which should project on to the screen?

OVERHEAD PROJECTORS

a. Does it have a power rating of 500-1000 watts?

b. Is there a small head on the projector so as not to block the view?

c. Is a minimum of keystoning present?

RECORD PLAYERS

a. Does the machine for classroom use have speeds of 78 and 45 r.p.m. (not as satisfactory as other speeds), 16-2/3 r.p.m. (for small records containing children's stories), and 33-1/3 r.p.m.?

b. Is it equipped with at least the ceramic type of cartridge, the costly but preferable variable reluctance type, or is it the crystal cartridge which is especially bad in regions of high humidity? (The variable reluctance costs about three times that of the ceramic but gives more than that in length of life and quality of performance.)

c. Does the tone arm (or needle arm) weight not exceed 6-8 grams for best reproduction and to avoid record wear?

d. If it is desired that the record player be equipped with a record changer, does the changer preferably feed by gripping the side or edges of the record? (Avoid those types which have the steadying arm overhead and the catch grabbing part of the center hole with the entire weight of the records on top. These catches will wear out and in short order wear away the record hole.)

e. Is the motor a "four-pole" motor for much smoother operation, or is it the less expensive but not as smooth "two-pole" type?

f. Do you find the speaker in a separate enclosure for best reproduction and can the speaker be shut off and earphones be plugged in for individual listening and so as not to disturb others?

g. Does the amplifier have a 10 to 15 watt power rating? (This will give fine performance at moderate cost.)

TAPE RECORDERS

a. Are there at least the two speed operations of 3¾" (for making longer classroom recordings) and 7½" per second? (The latter speed is also for playing commercially recorded tapes in addition to classroom recording.)

b. Will the recorder accommodate 7" reels?

c. Does it have a tape footage counting device?

d. Will it transcribe from another recorder or record player with good fidelity?

e. Does the amplifier have a power rating of 10 watts, or at least 7 watts as absolute minimum for good performance?

f. With no tape inserted, does the amplifier have not more than 2 decibels of sound distortion when volume is turned up half-way?

g. Is this a four-track tape recorder, or is it two-track. (The latter costs less but allows only half as much recording.)

h. Do you have negligible "wows" and "flutters"? (These are variations in the regular speed of the tape and in the smoothness of the reproduced sound which can be readily heard with the ear if they are great. They are more common with the "two-pole" than with "four-pole" motors.)

i. Are you aware that carbon microphones are unsatisfactory for quality reproduction?

j. Is the microphone of the dynamic type if the climate is humid, or are you able to protect a crystal microphone from dampness when it is not in use?

k. Is the microphone's reception characteristic of the desired type? (Unidirectional, one direction for interviews, selected speaking; Bi-directional, two directions for limited conversations; Non-directional for all directions.)

CRITERIA FOR PROJECTION STANDS AND CARTS

1. Is the stand 27" high and has it a top surface of at least 18" x 24" and light in weight for portability?

2. Are the uprights or legs straight and flush with the top or are they bent outwardly? (The latter style is supposedly shaped for greater stability, but creates a tripping obstacle which cancels out the stability advantage.)

3. Does it have four casters with two having locking brakes, or does it have only two wheels and two legs which necessitates lifting the cart whenever moving it is desired?

4. Are the casters equipped with rubber, or plastic, wheels of 3" or larger diameter, or are they metal and small? (Rubber and plastic will roll quietly in contrast to a metal wheel which creates artificial thunder, and a generous-size wheel will pass over thresholds and small obstacles more easily?

5. Does it have a metal shelf which is about mid-way down for storing or holding needed items?

6. Does the stand or cart have provision or facility for carrying a projection screen?

7. Is there a cart for each projector?

OUTLINE OF SCREEN TYPES AND CRITERIA FOR SELECTION

There are two practical manufactured types: the wall-mounted models and the tripod-mounted projection screens, the latter being more commonly used. Also, there are four basic types of screen surfaces: 1) glass beaded, 2) matte, 3) metallic or aluminized, and 4) lenticular.

Glass beaded screens appear to have great brightness or reflection qualities within a narrow viewing angle, but the beaded surface introduces some roughness or graininess, and the brightness decreases rapidly as the viewer leaves the center line of projection.

Matte screens appear to have overall low brightness, but have uniform reflection over their entire surface and brightness does not depend upon the viewing angle. (Brightness may be increased with a brighter projector.)

Metallic or aluminized screens provide greater brightness than the first two if the viewer is sitting on or very close to the line of projection. The brightness falls off quickly when leaving this line and moving to the side and the picture has a slight graininess. It is especially suitable for use with stereo slide projectors and for color. (Neither the beaded nor matte screens are suitable for stereo projection.)

Lenticular type surface is the latest innovation on the market and appears to live up to claiming all the advantages and none of the disadvantages of the others. This screen has fine horizontal ribs to diffuse the light to a 100 degree viewing angle and to intensify the reflection. One manufacturer now has on market a screen with vertical as well as horizontal ribs which further increase reflection, even at greater vertical angles of projection (i.e., Radiant Optiglow). This type would appear to have the greatest potential.

CRITERIA FOR SCREENS

1. If it will be used for showing motion pictures, are you looking at 4 x 5″ and 5 x 7″ sizes which are the minimum areas you should consider?

2. If it will be used for opaque, filmstrip and slide projectors, are you considering square screens with 40 x 40″ as the minimum size?

3. Does the screen suit the shape of the average room in which it will be used? (Long, narrow rooms usually need the beaded type; short, wide rooms can use the matte type to advantage; long rooms where color will be used or stereo use will be common should try to purchase an aluminized screen; soon for all room shapes, the lenticular type will probably be used.)

4. Can the screen surface be cleaned and is it mildew resistant?

PURCHASING CRITERIA

1. Have you "shopped around" for the most reasonable price in this particular model? (Vendors will usually be more patronizing if you let them know that you are looking for the "best" price.)

2. Is the vendor willing to deliver the equipment and test its full performance and operations with all of the foregoing criteria in mind with you present to see him do it?

3. Has he checked to make sure that all accessories, such as spare projector and pilot lamps, spare reels, line cords, lens lint brush, etc., are present and in functioning order?

4. Has the vendor signed a guarantee which provides at least for a 90 day period during which servicing will be free for at least those defects which were not present at time of delivery testing?

5. Is the vendor willing to sign a written agreement that there will be no charge for furnishing loan equipment while school equipment undergoes repairs, if the equipment develops malfunctions within the guarantee period and the repairs needed fall under the printed terms of the guarantee?

Without enumerating them, it would be a truly great and wonderful thing if the best features of each type of equipment were to be combined into one or more makes. The increasing competition of educational television may force the manufacturers to redesign some of their products to make their use as pleasant and uncomplicated an experience as one would expect when one considers their costs.

As it is, certain undesirable features in certain equipment or special features for special uses found only in certain apparatus must often be the deciding factor, and not quality of construction with economy of cost as it should be.

---

(1) Lane, Edgar. *Proposed 16 mm Motion Picture Projector Specifications.* Dade County Board of Public Instruction, Miami, Florida, 1957.

(2) Mathewson, Franklin T. "Checking Optical Performance of Projectors," *Audiovisual Instruction,* IV (April, 1959), 109-111.

(3) McClusky, F. Dean. "Criteria for Selecting A-V Equipment," *Instructor,* LXIII (January, 1954), 31-32.

(4) "Planning Schools for Use of Audio-Visual Materials," No. 2, Auditoriums, Dept. of A-V Instruction, National Education Association, Washington, D. C., 1953, pp. 24-25.

(5) Schuller, Charles R. (ed.) *The School Administrator and His Audio-Visual Program.* Washington, D. C.: Dept. of A-V Instruction, National Education Association, 1954, pp. 73-76.

(6) "Specification for Purchasing Audio-Visual Equipment," *Nation's Schools,* LIV (December, 1954), 70.

(7) "Standards for Equipment and Materials for the Improvement of Instruction in Science, Mathematics, and Modern Foreign Languages," *Florida State Plan for Title III,* National Defense Act of 1958, State Dept. of Education Tallahassee, Florida, January, 1959, pp. 5-7. (Presently under revision.)

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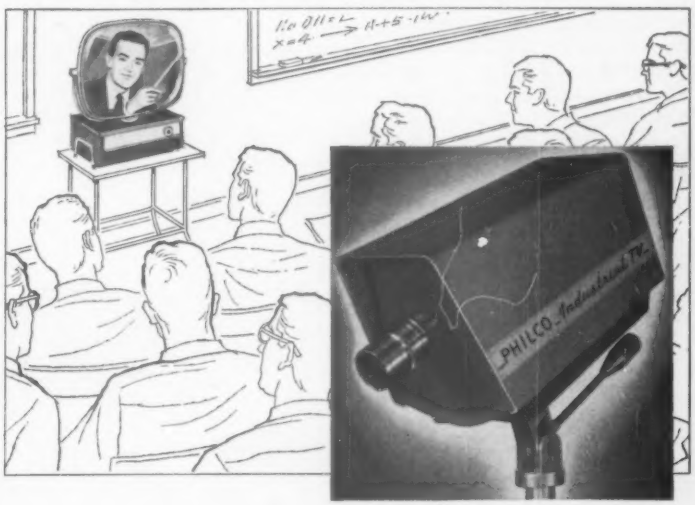

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AUDIO

by Max U. Bildersee

We've been asked a great many questions about audio materials this summer — but the most frequent inquiry has been "Where can I buy this record?" And the "this" record can be any particular recording because at AUDIO FAIRS in Illinois and Indiana we had the pleasure of giving a great many interested listeners a chance to hear a variety of recordings.

The answer is not simple. To begin with, certain records, particularly those published by book publishers and designed to accompany particular texts, usually are available only through those companies, or their recording affiliates. Thus for records published by D. C. Heath, Ginn and Company, Appleton - Century - Crofts, Harcourt Brace and the Oxford Press, look to their salesman for their recordings.

Sales representatives from the American Book Company carry exclusively and sell discs produced under the AUDIO EDUCATION label.

Then there are the specialty records which are available only from the publisher. These include Encyclopaedia Britannica, McGraw - Hill (Popular Science label), Lexington, Columbia University, Newberry Award and Music Education Record Corporation. These must be secured from the publisher or, in the case of some you recognize, from their staff representatives.

Finally, the largest producers (the most important sources for such materials including Columbia, Decca, Folkways, RCA Victor and a host of others) present the simplest solution, for their product is available through local record dealers. For particular titles you may have to wait on a "special order" from the publisher but the records should be available to you through local sources.

Price? The record market is flexible. We cannot suggest that you "haggle" over price, but schools, libraries and other such institutional purchasers should be able to secure a sizable discount from local dealers. Then, too, by submitting a tax exemption voucher to *any* source, schools should be able to secure a still lower price.

Finally — if the record you seek seems irrevocably lost or impossible to obtain through any channels — let us know and we will try to help you. We cannot always promise success — but we will try. Not too many weeks ago a college in Chicago sought information about recordings which were published in 1939 and which were last listed in a catalog about three years ago. We don't know that we found the particular discs sought, but we could recommend another title (and to our mind, superior) of very similar material. We may be able to do this much for you, too, and we shall be happy to try.

NORMAN SINGER, *Dean of the* ASPEN SCHOOL OF MUSIC *and Director of the* ASPEN MUSIC FESTIVAL *in Colorado, uses his* NORELCO *'Continental' to play a tape by a young pianist who has applied for admission to the celebrated summer school. "The* NORELCO *'Continental' is our choice because the prime requisites for a tape recorder at Aspen are ruggedness, versatility and high fidelity," states* MR. SINGER. *"A first-rate tape recorder like the 'Continental' is an essential item for an active music school. By studying the tapes, students learn to criticize constructively their own compositions as well as their own instrumental and vocal performances." The* NORELCO *'Continental' is a product of North American Philips Co., Inc., High Fidelity Products Division, Dept. 1S10, 230 Duffy Ave., Hicksville, L. I., New York.*

Audio Fairs

With the coming of October and fair time in many parts of the country, it is appropriate to describe, at least in part, an "any time of the year" fair which you can undertake and sponsor yourself. And the AUDIO FAIR can add to the prestige of your audio-visual program, contribute markedly to your in-service training activities and serve as both springboard and announcement for expanded availability and use of audio materials.

All you need is some imagination to promote the fair — and a considerable stack of a variety of recordings.

We experimented with this device in a number of nearby school communities and teacher-training institutions before we reached the conclusion that the AUDIO FAIR required the participation — and the listening activity — of the individuals attending the showing.

The past summer at several mid-western teacher training institutions we tried it this way with some success we think. To begin with, we secured a great variety of printed materials . . . leaflets, flyers, catalogs, still pictures, indexes and so forth which we could give away. These were shipped to the point of the showing and placed on tables for anyone to pick up.

Then from our own collection of recordings we shipped a great variety of materials, representative of the work of a variety of producers. These too went to the point of the demonstration — and these too were placed on the table where they could be seen, handled and studied.

The selection of recordings sent was as broad as we could make it; broad in grade range, for it included records for pre-school children and readings

in Greek for the college student; broad in subject matter, dealing with practically every area of the curriculum including music appreciation, the sciences, the arts and languages. Finally, the collection was broad in quality, for we included many of the fine recordings available, and a few somewhat less valuable from an instructional standpoint.

Finally, a catalog of the collection was available for study by those who attended the Fair.

The AUDIO FAIR started formally, with a short presentation describing the materials at hand, discussing the importance of teaching students to listen intelligently — stressing the constant application of audio comprehension in everyman's everyday training and living. Next there was a short description of the multitude of materials available to the audience to see, hear and appraise. And finally, the members of the audience were invited to try them out for themselves.

In each case, the host institution provided a variety of sound reproducers for the use that the groups might give them. We did *not* try to guide the listening to any particular group of records or producers, but rather urged that our guests browse.

It was simple for many to study the catalog, s e l e c t a recording which seemed to fit a particular need or interest, find it on the tables of recordings and then sit and listen to all or a portion of the record.

We estimate that, in a few days of intensive showing of recordings, we saw and spoke with approximately a thousand people, and to many we introduced a new line of thought concerning specific types of materials and their applications to instruction and learning.

You can do the same thing for your teachers and for students in the teacher training instructions you serve. We will be happy to help you organize a local AUDIO FAIR for your own people by mail, and help you too to secure printed materials. What you must supply are the imagination, the promotion and the variety of materials for your participants to see, to handle and to hear.

★

MANY VOICES — A notable contribution to the audiovisual instructional field is a series of six separate recordings under this generic title. The recordings are intended, progressively, for use from the seventh to the twelfth grades in the study of English and are designed particularly to accompany the text series, "Adventures for Readers I and II," Adventures in Reading," "Adventures in Appreciation," "Adventures in American Literature" and "Adventures in English Literature." The books and the records are published by Harcourt, Brace and Company (750 Third Avenue, New York) and are meant to be used on a parallel basis to excite both the visual and the auditory senses. A list of the titles in the six recordings would be too space consuming, so suffice it to say that the range of literary presentation covers all forms — poetry, drama, essay and short story. Similarly, a complete list of authors would read as a "Who's Who" in literature but the range is from Chaucer to Churchill, f r o m Shakespeare to Shaw and from the simplest presentation to the most complex.

The artists who perform are worthy, too, of mention. Actors and authors combine to give breadth, depth and life to the lines that are read. The entire series, without exception, is wor-

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thy of the consideration of every library and of every audiovisual director whose services involve the variety of tastes represented.

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The recording "CHEMISTRY" (Audio Educational Aids, Box 250, Butler, Missouri) is designed for the student who has had considerable experience in the study of this science, and is seeking a quick, "overnight," review of the more common chemical elements including the name, spelling, symbol, atomic number, atomic weight and chemical valence; a list of the more important terms used in chemistry including the word, spelling and definition; and, a compilation of some atomic terms with the definition and, a compilation of some atomic terms with the definition of each. This reading or recital of information is uninterrupted from beginning to end.

The data presented is fundamental, and should be found in any modern secondary school chemistry textbook. Because, as already stated, the recording is meaningless to the student with no previous knowledge, the utilization is limited to refresher purposes.

★

Some junior high school students will profit from "THE PATRIOT PLAN" (Folkways Records FH 5710; 117 West 46th Street, New York 36) but senior high school students will find this a good background and documentary source for classes in American History. This recording, in addition to being used in direct classroom instruction, will be a worthy addition to a variety of libraries for both reserved listening and loan purposes.

"The Patriot Plan" involves the documents of the strugle for democracy in the western hemisphere. Included in the recordings and the accompanying seventy-two page book are "The Mayflower Compact," excerpts from "A Body of Liberties," "Roger Williams' Letter to the People of Providence" "Maryland Toleration Act (excerpts)," "James Otis on The Rights of British Colonists Asserted and Proved (excerpts)," "Sons of Liberty Speech" of Colonel Isaac Barre, "The Virginia Resolves," dramatized excerpts from "Patrick Henry's Testimony Before the House of Commons" and a variety of other materials involving such well known names as Samuel Adams, John Winthrop, John Locke, Andrew Hamilton; involving such milestones as the Zenger Trial, Witchcraft Trials and Town Meetings, and such issues as slavery, freedom of conscience, and of course, taxation.

This is more than a recording – it is a student's document which is at once a reference source, a document information source and a useful instructional material. Junior and senior high school students are probably the youngest who can profit greatly from hearing these recordings, but surely teachers and college students can use the material in a variety of ways.

★

Have you heard "PERRI," which is one of the better Disneyland (2400 W. Alameda Avenue, Burbank, California) productions insofar as school applications are concerned? Second and third grade youngsters can enjoy this simple, yet effective story of the adventures and misadventures of two squirrels, Perri and Porro. They are beset by a variety of difficulties, including attacks from their natural enemies in the woodlands, the cold of winter and the frightening dangers of a forest fire. Jimmie Dodd narrates this delightful recording which, besides being used obviously for pleasure listening, can contribute to some aspects of the nature study program.

★

Mature students can profit from hearing the reading of five short stories by W. Somerset Maugham (Libraphone; P O Box 215, Long Branch, New Jersey). The stories included are "Red," "The Ant and the Grasshopper," "Footprints in the Jungle," "The Letter," and "Episode." These examples of the story-telling art of one of the leading short story writers of this generation can be used effectively for a variety of purposes in upper high school and college classes in literature, the short story and writing.

Similarly interesting, and designed to appeal to a similar group of students, is Columbia ML 4754 titled "JOHN COLLIER" in which the noted author reads his own "Mary," "De Mortuis," and "Back for Christmas." Although this is fundamentally a library recording it may be used effectively in high school and college English classes to demonstrate writing techniques, diction and the art of reader (and listener) involvement. This recording from The Columbia Literary Series indicates that the author can give both life and meaning to the reading aloud of his own works, and thereby lend a personal touch to the listener's enjoyment.

★

Finally, teachers of Greek can now find an unusual and useful example recorded of Greek speech. Moses Hadas, noted scholar of languages, reads portions of the "Apology" in both Greek and English in the recording "ON THE DEATH OF SOCRATES" (Folkways FL 9979; 117 West 46th Street, New York 36.)

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According to Dr. Hadas, it is in the "Apology" that Socrates delineates his own concept of his own function on earth, his mission to sting men to think, to examine their ideas and concepts, to question the finality of their conclusions. Portions of the "Phaedo" are included in the recording including Socrates' conversations with his friends on the last day of his life.

The recording, which is accompanied by a complete Greek and English script, can be useful to mature high school students studying Greek, to college students and to adults working in the language areas involved as well as in philosophy and Greek history.

★

ENRICHMENT MATERIALS (246 Fifth Avenue, New York 1, N. Y.) has released several new titles, including THE MONROE DOCTRINE, which is backed up by F. D. ROOSEVELT'S FOUR FREEDOMS SPEECH.

The former is actually a summary of the events, conferences and decisions which led to the pronouncement by President James Monroe of the simple, yet decisive foreign policy statement which bears his name. The recording reports, accurately, that the statement is far better known today than it was when it was spoken. In fact, according to most historians, the far-reaching, vital policy statement was largely ignored in its original presentation as merely another facet of an annual "State of the Union" message to the Congress.

The recording includes an important teaching device – a point-by-point summary of the Monroe Doctrine. This very good delineation and presentation of this keystone statement of our foreign policy can be used in classes – sixth grade or junior high school preferably, not only to point up a particular period in history but also to encourage discussion of our current policies and the relations existing throughout the Western world today. The Monroe Doctrine is a "live issue" in world affairs and this recording can be used to emphasize this.

F. D. ROOSEVELT'S FOUR FREEDOMS SPEECH is a quick, perhaps too quick, summary of the events of the two decades between the first and second World Wars. Although we, as teachers, knew much of this period, the students we reach in the upper elementary grades and the junior high school – and thereby the students for whom this recording is intended – know of this period only through hearsay, reading and reports. They can have no memory of it.

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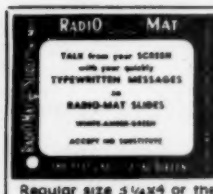

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FILMSTRIPS

by Irene F. Cypher

We saw a good many people, young and old, this past summer, and one thing impressed us about all of them. Whenever anyone had a good story to tell or an interesting anecdote to relate, they could be assured of an audience and willing eyes and ears. Now, should you not get the point of our statement immediately, this is exactly how we feel about filmstrip productions. It does not worry us in the least that there may be several sets dealing with the same subject matter—for each producer has probably put in something to make his particular set a bit different from another. We are not worried about saying this either, for if teachers are wise in making selections of materials, they will realize this and begin to use several sets in order to bring these different aspects of the story to the attention of their pupils. Once again we risk the dangers of repetition to remind you that library shelves are filled with books dealing with the same subject (and no one condemns this fact): in fact people rejoice over the fact that there are differing viewpoints put into print for us all to read, compare and discuss. So start the new term with a look at the filmstrip catalogs, and don't be afraid to mark down for preview and consideration for use all the material you can secure on a subject. Your pupils might like to hear two sides of a story—and remember it better because of having seen two presentations.

Television Series

(color, 3 strips; Vis-ta Films, P.O. Box 2406, Sepulveda, Cal.; $10.50 per set, $4 single strip). A new producer and a new set, which is good to include here. Television is probably the most discussed and least understood medium of modern communication. Inasmuch as it is here to stay and is certainly a part of everyday life on this sphere, it would seem wise to make some attempt to learn to appreciate what it is, what it brings into our lives and how it operates. In this series the producers give us an excellent idea of what constitutes *THE TELEVISION STATION AND ITS SERVICES, EQUIPMENT AND SETS FOR LIVE TELEVISION* and *PREPARATION OF THE LIVE TELEVISION SHOW*. The whole aim of the series is to help us understand just what it takes to produce a live television show and how this show "gets on the air." We can imagine any modern child being intrigued by this series and we can also see the value of this material for students in production courses. The story is plainly outlined, the various devices such as transmitters, sets and props are described and the planning process involved is well outlined. Material such as this is timely, interesting and related to modern life. We personally found the series both appealing and practical. It is good to see such material made available and to recommend it for use wherever television is considered and discussed.

Atlantic Region Series

(3 strips, color; produced by National Film Board of Canada and available from Stanley Bowmar Co., Valhalla, N.Y.; $5 per strip). Much of Canada's agricultural and shipping wealth is concentrated in the provinces of the Atlantic Region. This series introduces us to the general history, terrain and resources of that area and then gives a very complete pictorial description of the shipping industry and of forest and farm life. It is interesting to note the combination of activities and the extent to which the work of the area contributes to life in the Western hemisphere. The factual information is well presented and the pictorial story is good. Many important geographical facts are included and the series is excellent for any study or consideration of Canada. Manuals supply additional data and are excellent resource material.

Heat, Light and Sound

(color, 7 strips; produced by Jam Handy Org., 2821 E. Grand Blvd., Detroit 11, Michigan: $31.50 per set, $5.75 single strip). To understand the world in which we live it is essential to know something of the nature of heat, light and sound. They are part of everything and affect everyone. In this series we consider *Cause and Nature of Heat; How Heat Causes Expansion; How Heat Travels, Light and How It Travels; Light and Color; Cause and Nature of Sound; How Sound Travels.* The subject matter of

the series is directly related to things we see and hear all around us, and it will be very interesting to carry out the simple experiments suggested. The presentation is practical, directly correlated to the needs and interests of young scientists in the upper elementary and junior high school science classes. Probably the practicality of the series is what will appeal to both teachers and pupils and which makes it a good set to recommend.

Life in Elizabethan Times

(4 strips, color, produced by Popular Science and available from McGraw-Hill Films, 330 West 42 St., New York 36, N.Y.; $22.50 per set, $6 single strip). The Elizabethan period and the people who lived and worked then are of ever continuing interest, particularly to students of literature and the theatre. Here the producers highlight the life of William Shakespeare and the theatre during the reign of Queen Elizabeth. We see the London of Shakespeare, and the people who were instrumental in making this a period to be remembered. Both theatre and players are presented for our study: leading characters are shown, and the nature of the plays described. This is an excellent series for literature classes and social studies.

Pennsylvania Geography Filmstrips

(7 strips, color; available from Visual Aids Service, P. O. Box 470, S.T.C., Westchester, Penn.; $27.50 per set, quantity discount on orders of 10 or more). It is important that the geography and history of each of our states be visualized for study. This producer has undertaken to make available such local sets, and the Pennsylvania set certainly provides a wealth of information about that state. He gives us facts about buried treasure (sub-soil resources), forests, lowlands, farmlands and manufacturing cities. There is local value in the material and it will also be of equal value whenever individual state resources are considered. Other state sets are in process of preparation.

The Story of the Panama Canal

(color, single strip and record; produced by HR Productions, 17 East 45 St., New York 17, N.Y.; $11 per unit of filmstrip and record). It seems to us that almost anyone would enjoy this story of the Panama Canal, because it is so well presented. Of course if you are a stamp collector you will get extra enjoyment, for the story is presented through the medium of postage stamps (in each instance the stamp is one produced to commemorate persons and events connected with the building of the canal). The voice of the narrator is good, and the record actually adds to the value of the filmstrip, making a unit which is both pleasing to see and hear and valuable for informational purposes. Material of this type can be used in a variety of situations, and has a rich potential for classroom work. It is not stereotyped, and should appeal to pupils. We can see it as useful for social studies, for literature and art, for world geography and for stamp collectors. It can be used with many ages.

You and Your Driving

(color, 6 strips; produced by Stanbow Productions, Inc., Valhalla, New York: $28.50 per set). To the teacher and pupils of a driver education course this series will be of great help. Visualizations are planned to illustrate what to look for in learning to drive; rules of the road to be observed; how to interpret signs; driver responsibility. There are directed questions designed to make the driver-learner think about what he is doing at the wheel. Cartoon technique has been employed and there is simple directness to the visuals. This is another practical, useful set.

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AV IN THE CHURCH FIELD

by William S. Hockman

Important Experiment

(One of the most important A-V books we have seen recently is Rae Bragman's "A Year's Program of Audio-Visual Units and Projects." In its 226 pages some 23 AV projects are described as they were carried through in a religious school. Many audio and visual media were utilized, and the grade gamut was from Kindergarten through Ninth.

When Dr. Samuel Grand, Director of the Department of Experimental Education and Audio Visual Aids of the Union of American Hebrew Congregations (UAHC), 838 Fifth Ave., New York 21, came to write the Introduction for this significant volume he set forth a philosophy and a point of view which is needed desperately in the church field today. For this reason we are pleased to be able to present it to our readers herewith, with his permission. Let it encourage you to secure from UAHC this important report. The price is $3.00.)

Audiovisual instruction in the Jewish religious school began in earnest in 1949 with the production of the first series of holiday filmstrips. Since then a host of filmstrips, records, flannelgraph materials and motion pictures have appeared to assist the teacher in all subjects of the curriculum of the religious school. Fortunately, the wide acceptance of these instructional tools has insured a continuous program of production by several public Jewish organizations and by a few private companies.

As important, perhaps more important, than the production of top-flight audiovisual materials, is the high-grade utilization of these teaching tools in the classroom of our religious schools. Actually, it is this phase of the audiovisual program that requires the attention of our educational leadership as well as of the rank and file of our teaching personnel.

With this consideration in mind we selected one school for experimentation in the utilization of the various audiovisual media and techniques. It was to be an experiment in depth, for we wished to have teachers in classes all the way from the kindergarten through the 12th grade develop units and projects of an audiovisual character. We proceeded on the premise that it was an educational fallacy to designate one or two teachers as the audiovisual experts in a school, just as it is unsound to establish one classroom as the audiovisual room. All teachers, we felt, should be adept at audiovisual techniques, and every classroom should be used for their presentations.

For such a pilot experiment we chose the religious school of Temple Israel in New Rochelle, New York, whose principal, Rae Bragman, has pioneered in audiovisual instruction for many years. In carrying through the experiment Mrs. Bragman has received the encouragement of Rabbi Jacob K. Shankman and the cooperation of the teachers in the religious school.

The experiment has succeeded beyond all expectations. This manual represents its results in a most graphic manner. Appropriately the projects are represented by pictures (at the end of each chapter), which show the pupils in the audiovisual activity which was best suited to the subject under consideration. Each teacher describes his or her class unit from its inception to the culminating activity which was presented in the "Festival of Projects."

What emerges in these descriptions is infinitely more than an accumulation of audiovisual know-how. It is rather a compendium of excellent pedagogic suggestions for all subjects of the curriculum and for all age levels in the religious school. This is convincing proof that audiovisual techniques are not "a thing apart" but are closely intertwined in the fabric of good educational methodology.

We present this collection of audiovisual projects to the public in the hope that its suggestions will be helpful to teachers in all parts of the country. We are interested, to be sure, in the production of audiovisual aids of superior educational and technical excellence; we are far more concerned with the teacher in the classroom and his effective use of these and other pedagogic aids. In the last analysis, the teacher is the foundation of our entire educational structure.

Padre On Horseback

When the Colonies were but insecure bridgeheads of Europe's civilization on the East Coast, Father Eusebio Kino came up from Mexico City into the wilds of (now) Arizona and New Mexico to plant both Christian missions and civilization. Avalon Daggett Productions (441 N. Orange Drive, Los Angeles 36, Calif.) in a 12-minute color film summarizes Padre Kino's labors in fine narration and excellent photography. In this film we see the fruits of this wise and dedicated man's life. The work of this pioneer has become one of the foundations of the culture and life of the Great Southwest. Instructive and attractive, this film is recommended for use with the fourth grade and up in church, school, synagogue, and parish hall.

Mixed Marriages

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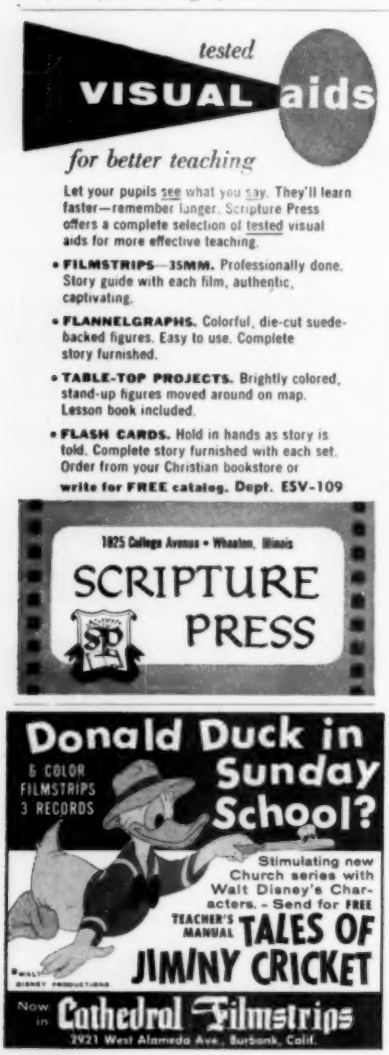
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which mixed (faith) marriages set before couples. *One Love – Conflicting Faith* documents the love and first year of marriage of a fine young couple, one a Protestant and the other a Roman Catholic. The subject is treated with fairness and objectivity. The acting is excellent, and the emotional impact is powerful. Highly recommended. Available from TRAFCO 1523 McGavock St., Nashville 3, Tenn., and from local film rental libraries. Color, $8.00; B&W, $5.00.

Film Notes

I'll Sing, Not Cry, is a beautiful film which documents the spirit and soul of the African. It was a hard film to make, and Berkeley Studios, of the United Church of Canada, and Anson Moorhouse, old-hand at documentaries, the genius behind this film, deserve great credit for a superb job. This film makes you say: such fine people need a religion finer than fear and superstition, and, by the grace of God, we will do our part to get it to them! Highly useful in church; in family nights; in Sunday evening services; in colleges; and in the service clubs of the community. In 28 minutes it speaks volumes on the African as a human being. Available (in U. S.) through United Church of Christ, 287 Fourth Ave., N. Y., and 1501 Race St., Philadelphia 2, Pa.; write to former to see if there's a print near you.

None Goes His Way Alone – 30 minutes; color and B&W; the Methodist and other local rental libraries – should be seen by rural folks for the inspiration it can give; by city people for the information it can impart. It shows a rural church getting over dry-rot; it can warn city churches about the wet-rot that can overtake them; it can tell all churches that churches don't stay alive when people die in their spirits. Color rents for $9.00; B&W for $6.00. This is a good and useful film.

Two titles for children on Africa: *African Cousins* – a typical day in the life of a 9-year-old African boy; and *Bantu Girl* – what she does and thinks one day of her life. Both 13 minutes; and from BFC (220 Fifth Ave., N. Y. 1) and from many rental libraries. Both are good films, and useful. Rental $6.00.

Filmstrip Notes

Sketchbook On Greatness is a 64-frame color filmstrip for Junior and Senior Hi young people (and adults) which presents the life and work of three great Christian leaders – Eckhart, Savonarola, and Erasmus. The excellent user's guide sets the purposes and possibilities when used in several ways, and with different age levels. The script is by H. C. Ahrens, Jr. and the art by Oliver Grimley. Good and useful, and available from Christian Education Press (CEP), 1505 Race St., Philadelphia 2, Pa.

When the Radich family moved into the neighborhood their coming put a lot of people to the test: *How Do You Love Your Neighbor?* asks just this question, and goes on to give some of the cliche answers. All the while, boys and girls and young people in church school classes and departments will find themselves thinking and acting like the neighbors of the Radich family – and repenting for their clumsy version of Christian living. The guide gives helpful suggestions as to how to get educational power out of this package. A very good job. Script by Eleanor Hull; photography by J. Nettis. From CEP.

There is a difference between the Protestant and Roman Catholic view of just about every item in religious faith, and some of these differences constitute the subject matter of *Sons and Heirs*, and, *Nancy Has A Catholic Friend*. Based on the concept that we should know something of the faith of our neighbors, these two color (art) filmstrips hit some of the main points. The first is for youth and adults; the second for Primary and Junior children. Recommended. Available from CEP.

Book Making Town In Liberia; from Lit Lit, 156 Fifth Ave., N. Y. 10; color; use-time 20 minutes; photography; rental $2.50; sale $5.00, and a bargain at this price. Excellent job in content, script, and pictures. Presents step by step what happened in Wozi when the Sadlers brought the town up to literacy. For use with Juniors and up to give information, inspire study, stimulate reading.

A New Day For African Women; from Lit Lit; color; use-time 20 minutes; color; photography, rental $2.50; sale $5.00. Shows what can happen when the African woman is freed by reading to make choices. Good script; fine pictures. Useful with young people and adults to give information and develop interest.

A School Bell Rings In Angola; from United Church of Christ, 287 Fourth Ave., N. Y. 10; and, 1501 Race St., Philadelphia 2, Pa.; price not known; color; excellent photographs and script; use-time about 12 minutes; Primary and up. Story of a little boy who wanted to go to school and who could not. Six or seven others in this same series by Dickie Sada. Ask for information.

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FILM EVALUATIONS

by L. C. Larson and Carolyn Guss

The Pioneer Burro

(Pat Dowling Pictures, 1056 South Robertson Boulevard, Los Angeles 35, California) 14 minutes, 16mm, sound color, 1959. $135.00

Description

The Pioneer Burro portrays the role of the burro in the settlement of the West as it teaches interesting details of the life of the typical solitary pioneer prospector who opened these unknown regions to human habitation. In this film the role of the burro is entwined with the fate of the prospector in scenes which depict the conditions under which the gold seeker labored, and it illustrates the methods and processes used to claim the precious metal. The plot of *The Pioneer Burro* carries the prospector and the burro through the perils of the mountains and the desert and paints a picture which convincingly endears the memory of the burro in the romantic history of California and the West.

The opening scenes of the film survey the mountain range in California in 1849 and the narrator explains that gold had been in the mountain range unnoticed for thousands of years until water washed particles down the slopes into the river beds and left deposits. Pioneers came to claim this gold. A prospector is shown as he trudges along holding in his hand a lead rope which is attached to a heavily loaded burro that patiently follows the man across the arid land. The man and the burro are an inseparable team in the quest for gold.

During the search for a strike the prospector stops to take a dirt sample from a dry stream bed and loads it on his burro's back to be carried to a running stream where it can be panned for its gold content. The next scene shows the prospector washing the sample beside a stream. The lighter materials are washed and floated away to leave the heavier materials and the gold, if any, in the pan as sediment. After continued washing the bright and shiny bottom of the pan indicates that this sample contains no gold. The prospector and the burro move on, now doubting the exaggerated and false stories of great wealth just for the taking which had been told in the East.

"Gold is where you find it" is a saying which illustrates the lack of systematic knowledge of prospecting that existed among the uninitiated gold seekers as they pursued their dreams of great wealth. The prospector and his burro unwisely wander away from the stream beds and into the uncharted arid lands where they become lost. After the prospector drinks all of the water the heat begins to sap his strength and reason, but the burro steadfastly moves along under his heavy burden. Heat and frustration overcome the prospector and he turns the burro loose and begins to search frantically and at random for water. The burro, having been freed, discovers a water hole in the desert and stands nearby to notify his master of his life-saving find. The prospector stumbles and crawls to the water and drinks his fill while the burro just stands by as though "it is all in a day's work."

The next scenes show the prospector and the burro tortuously scrambling up a steep mountainside. The burro is surefooted under his burden as he ing the load of the prospector's food, cautiously picks his way upward carry- tools, and supplies. When they reach a stream the prospector labors in the shallow bottom with pick and pan while the burro rests and dines on "anything that grows and is not too bitter." The narrator explains that an average pan of gold may be worth fifty cents and the prospector may collect as much as twenty-five dollars, a day, depending upon the richness of the deposit he is working.

Following is a sequence which deals with gold mining processes. The cradle, a device which could handle five or six times more gold than hand-panning, was introduced in the West. This new equipment added to the burro's burden but he carried on in his usual dependable fashion. The prospector is shown in close-up views as he loads the cradle hopper with a sample, pours water over it, rocks the cradle, separates the worthless materials from the hopper, and retains the heavier material and gold as sediment in the cradle bottom.

When the pay dirt was found some long distance from water the burro had to transport load after load over the rough terrain in the heat and dust. Whenever the claim was rich enough the prospector and the burro worked all day for months to claim enough gold for the prospector to return home. Sometimes this drudgery and boredom was relieved by rare finds of great value. This day the cradle hopper caught and held a nugget of pure gold worth a hundred dollars or more. The prospector picks it up, inspects it carefully, and leaps for joy. He runs to the burro to show his good fortune but the burro simply looks on uncomprehendingly, stolidly refusing to share the prospector's enthusiasm.

The closing sequence deals with the loneliness of the pioneer prospector who had only his burro for a companion for months at a time. At a camp fire in the wilderness at night he sits and longs for his loved ones and gazes at a treasured portrait by the light of the fire. The narrator explains that many prospectors did not find riches in gold but they did, however, find treasure of more lasting value in the West and stayed on to settle the region.

The Pioneer Burro, in a summary, recounts the qualities which nature gave the burro that admirably fitted the little animal for the role it played in the settlement of the West in scenes, which recapitulate previous scattered views and comments. The burro was not severely affected by the heat, it could go long periods without water, it was surefooted and cautious in the mountains, it could easily find food in the mountains and on the desert, and it was a patient and uncomplaining beast of burden. At the end of the film the prospector and the burro are shown yet wandering across the arid land in a continuing search for gold.

Appraisal

The Pioneer Burro should be especially interesting to pupils in the elementary and junior high school grades and will serve to give an emotional component to the learning of historical facts. The appeal of the burro as a focal point of the film continuity adds a charm to the presentation which should please general audiences as an entertainment feature. It points out the hardships which the pioneers endured during the gold rush and indicates that wealth was obtained by only a few persons, but

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in the main the greatest values which came from the turbulent period in American history were not gold. The film has two main themes – that of the adaptation of the burro to the conditions of gold prospecting during the time and the typical fate of a pioneer prospector who came in search of gold. Within this development a close-up view of hand mining methods is presented. The implication of the conditions under which the prospector labored and the resulting settlement and development of the territory seems the more important theme in spite of the prominent place the burro holds in the film title. It teaches some facts about the location of gold, how it is mined by hand methods, and the manner in which it is distributed in the earth. It also shows how natural qualities of an animal peculiarly fit it for a particular task and the importance of such an animal in the development of an enterprise.

– William A. Wheeler

Man of the Century: Churchill

(McGraw-Hill Book Company, Text-Film Department, 330 West 42nd Street, New York 36, New York) 56 minutes, 16mm, sound, black and white, 1959. $250.

Description

As the title suggests, the eventful life and critical times of Winston Churchill are treated in a film that launched the Twentieth Century Series on October 20, 1957, over the CBS Television network. Walter Cronkite's narrative selects, interprets, and ties together incidents in Sir Winston's public career; Churchill himself plays the hero's hole. Supporting roles in this epic-drama are played by Lenin, Stalin, Hitler, Chamberlain, Goering, Mussolini, Roosevelt, Atlee, Lady Churchill, and Queen Elizabeth. Thousands of people, both well-known and unknown, provide the settings.

The portrayal of Churchill's early life includes his childhood at Blenheim Palace and Harrow; his military career at Sandhurst, in Cuba and India; his experiences as a correspondent in the Boer War. He began his political career in 1900 as a Conservative member of the House of Commons. After joining the Liberal Party he was unseated because of his opposition to the Suffragettes. Then came the cabinet appointments of Home Secretary and First Lord of the Admiralty. His support of the ill-fated Gallipoli Campaign of World War I forced his resignation. Believing that he was finished politically, he rejoined his old regiment fighting in France. But Lloyd George appointed him Minister for Munitions, in which position he promoted the use of the tank and the airplane.

With the Armistice, Churchill devoted his energies to an attempt to stop the communism that had so recently bloomed in Russia, but he failed in three successive attempts to gain a seat in Parliament. He became Chancellor of the Exchequer in Baldwin's Cabinet, but the 1929 victory of the Labor Party turned him out. In 1933 he began to warn an apathetic populace against Hitler. When Chamberlain signed the Munich Pact, Churchill called it "total and unmitigated defeat." When Britain entered World War II, Churchill returned as First Lord of the Admiralty. Then at the age of 65 he became Prime Minister.

Concurrent with events of the early war years – the evacuation at Dunkirk, the capitulation of France, and the air battle of Britain – Churchill's eloquent words and personal visits helped bolster the people's morale. When Hitler attacked Russia, Churchill threw his support to Stalin. Now that American support was needed, Churchill met Roosevelt off the coast of Newfound-

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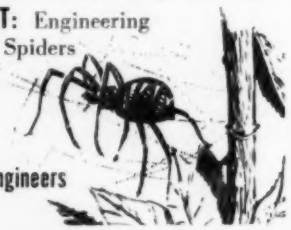


Spider Engineers

The Orb-weaver with its variety of silk, the Bolas and its silken lariat, the Diving Spider in its diving bell and the Trapdoor Spider behind its camouflaged door demonstrate the skill and versatility of spiders.

Upper Elementary, Junior High, Senior High

16mm sound, color, 15 minutes

Write for preview and catalog

MIS material qualifies for purchase under provisions of the National Defense Education Act of 1958.

MOODY INSTITUTE OF SCIENCE
Box 25575 E
Los Angeles 25, California

land to agree upon a declaration of principles, the Atlantic Charter. Later that year, when the Japanese attack on Pearl Harbor solidified American opinion, Churchill addressed a joint session of Congress a few days after war was declared. Then he went on to Ottawa to address the Canadian Parliament. He visited British and American troops in North Africa; met with chiefs of states at Casablanca, Teheran, and Yalta. Although he was dissuaded by the King from watching from a cruiser the decisive Allied invasion of Europe, he was on French soil four days later. Then came victory, the Potsdam conference and his dismissal by the British in favor of Atlee and the Labor Party.

After a period of painting, writing, accepting honors and making speeches (at Fulton, Missouri, and Massachusetts Institute of Technology) to warn the free world of the danger of Russian communism, he returned once more to No. 10 Downing Street. Since then he has received outstanding honors from his own people and their queen.

Appraisal

Winston Churchill, Man of the Century is a film that will grow in value with the years. Newsreel documents and recorded speeches – raw material for historical research – endow the film with archival and reference value.

There is, of course, the problem of the film's length fitting the usual class periods. Nevertheless, resourceful educators can find ways of making this important film available outside of class. If high schools and colleges are concerned with devices for individual learning, it would make sense for a student to be able to check out such a film as this and be assigned to a projection room, just as he might now use microfilm in reference work. Also, special interest groups, such as history club, as well as general adult audiences, will find the film interesting as program material. More mature adults will find a reminiscence and synthesis of events with which they are already familiar. They will hear again excerpts from Churchill's famous speeches and see him deliver some humorous quips. Those who are sensitive to the aesthetic qualities of film will find unforgettable the quiet suspense of the sequence of Britain waiting for Hitler's air attack to begin. In another lyrical sequence describing the evening before the invasion of Europe, the film borrows scenes from the documentary *Listen to Britain*. The mood of the whole film is strengthened by the musical score of George Antheil.

McGraw-Hill Book Company and other organizations are performing an outstanding service to education by distributing this and similar films thus assuring that television programs of lasting value are not one-time presentations.

– Ledford Carter

The Colloidal State

(Coronet Instructional Films, Coronet Building, Chicago 1, Illinois) 14 minutes, 16mm, sound, color or black and white, 1959. $165 or $90. Teacher's guide available.

Description

The Colloidal State shows examples of common colloids such as clouds, plaster, and paint, and defines a colloid in relation to solutions and suspensions. Characteristics of a colloid are shown to be a function of particle size with colloidal particles being too small to filter but too large to pass through a membrane.

A demonstration of the Tyndall effect in a colloid and the Brownian movement caused by the motion of colloidal particles is shown. Animation is used to show that this movement of the visible particles is a result of their continuous bombardment by invisible molecules.

Eight possible combinations for the forming of a colloid between any two of the three states of matter are shown, but the combination of a gas dispersed in a gas is ruled out since this is demonstrated to be a dispersion of molecules rather than a dispersion of particles of colloidal size.

Examples of the manufacture of colloids include grinding pigments, emulsifying non-mixing liquids, and coagulating molecular particles to colloidal size. Another example of the dispersion of a colloid shows the effects of like electrical charges in holding the particles in a dispersed form. Cancellation of these charges through the addition of an electrolyte or through the use of a high voltage electrical charge demonstrates the destruction of a colloidal dispersion.

The film ends with a number of examples of the uses of colloids in the preparation of leather, casein, homogenized milk, and dyed fabrics.

Appraisal

The Colloidal State provides an overview of the characteristics, properties, preparation, and uses of colloids. It progresses deliberately from concept to concept so that students at all levels in a chemistry class will gain from its use. This film will be valuable both as an introduction and as a sum-

mary for a unit on colloids in high school chemistry.

— *Merlyn Herrick*

Twentieth Century: Gandhi

(McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 36, New York) 25 minutes, 16mm, sound, black and white, 1959. $135.

Description

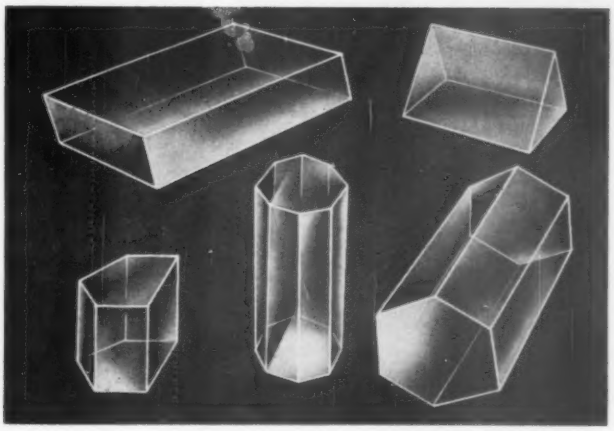
Gandhi, in portraying significant events in the life and work of Mohandas K. Gandhi, whose name is synonymous with non-violent passive resistance to oppression and universal brotherhood and love, highlights the history of India's struggle for independence from British rule and the subsequent conflict with the Pakistani.

The film opens with a picture of Gandhi, the political moralist, dressed in a loin cloth, imposed over a map of India. The title pops on and the narration repeats some of the paradoxes of Gandhi's philosophy. Following is a visual study of contrasts as striking as the philosophical beliefs. The opposing forces—moral and material—are presented in scenes which emphasize Gandhi's frailness and British military power. Gandhi's humility and India's princely pomp and ceremony, Imperial wealth and splendor and India's poverty and squalor. The narration explains the relationships and characteristics of the opposing powers and sets the roles that are to be depicted in a complex and difficult struggle for dominance as the "triumph and tragedy" of Mohandas Karamchand Gandhi.

The next sequence explains the beginning of open conflict as the boycott of British textile goods that established the spinning-wheel as the peaceable but relentless symbol of Indian resistance and portrays scenes of Gandhi's pilgrimage to the sea in the twenty-four day Salt March where the movement of civil disobedience was initiated by Gandhi when he willfully picked up free salt from the seashore in defiance of British law. Following the start of the conflict a series of views documents the attempts of the police to enforce obedience to the law through force of violence and brutal whippings of subjects who meet the challenge by submitting to the physical punshiments of the authorities while returning only stubborn non-cooperation and love.

The developments in the negotiations with the British government are followed as Gandhi, the chosen representative of the Indian Nationalists Congress, goes about his work with the people who rally around him. He is shown in views which give insight into his personality and his methods of carrying forth his movement. Gandhi is pictured during his activities on shipboard while traveling to England to confer with the British leaders, upon the arrival of his diplomatic party in England, during his stay in London, and in the town of Lancashire among the unemployed textile workers who were suffering because of India's boycott of their goods. The British government officials state their views of the Indian situation in a short report to the news cameras after the breakdown and failure of the negotiations and give some indication of the lack of English unity on Indian policy. Meanwhile Gandhi and his contingent depart and this sequence ends with a portrayal of the welcome Gandhi receives upon his return to India, in spite of his failure to gain relief from their pressing problems.

A fairly rapid succession of related scenes pulls together the events that highlight the solution of the problem of separation and independence. A change in the British government culminates in Gandhi's incarceration, during which he begins his protest



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fasts to effect improvements in social conditions at home. These fasts cause him criticism from within the Indian population. When the British government grants Gandhi his freedom he continues his work for the aims of Indian independence and national unity. During this period the action of the British government in forcing India into World War II without the consent of the Indian leaders brings about an intensification of the Indian policy of non-cooperation after which the British make some concessions to Indian demands and promise Dominion status to the colony at the successful completion of the war. The Moslem leaders demand a partition of the country when India is separated from Britain and remain adamant in their refusal to be reconciled with the Hindu majority in spite of Gandhi's pleading and negotiations with them. Partition having been effected the British troops withdraw and then the story of Gandhi's tragedy begins.

Scenes of brutality and violence committed by Hindu and Moslem, each against the other, follow as refugees move across the borders of India and Pakistan during the population shift which involves fifteen millions of people. At the age of seventy-eight years Gandhi begins to work frantically for a cessation of the violence and peace and understanding between Hindus and Moslems, and he and his followers walk through the countries to administer wherever help is needed. In the period immediately after India's separation from foreign rule Gandhi emphasizes human brotherhood and begins another fast to protest the treatment of the Moslem minority by the Hindus who are now led by his former associates in the struggle for independence. As the Mahatma comes out to say his daily prayer in the garden in Delhi on January 30, 1948, he is met by the usual throng of worshippers, but on this day as a worshipper kneels before him three shots, deliberately dispersed, ring out. Gandhi falls dying, the victim of a fanatical Hindu brother.

The film ends at the funeral pyre with a eulogy by Nehru in reverence to the Mahatma, "The Great Soul." As the film ends the narration and captions present the essence of Gandhi's philosophy: "I believe in the supremacy of moral law—the law of truth and love."

Appraisal

This film is a study of contrasts—extreme against extreme in mortal conflict and the material force against moral resistance. While presenting historical facts about an important movement in the history of Western culture, it portrays a dramatic theme which is ever-present in the culture of all peoples, the spiritual forces of the culture arrayed against the power of material wealth and comfort in the determination of the dominant values of the society. *Gandhi* is a valuable historical record in the decline of colonalism as a world movement. It also has significance for persons who are interested in a visualization of principles which are expounded in the dominant religion of the Western culture. This film contains footage from old filmic records having technical quality which is poor by comparison with the present standards of film production but which adds authenticity. Teachers of world history, political sciences, and religious classes should find this film useful in presenting information concerning the politics of the period and pointing up discussion problems. Leaders of adult discussion groups should also find this a rewarding film. In fact, this production should be enjoyed and understood by persons from high school through college and adult levels.

— William A. Wheeler

The Christmas Deer

A Legend Retold

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GROVER-JENNINGS PRODUCTIONS, INC., P. O. Box 303, Monterey, California

Reprint of Film Review, *Educational Screen & AV Guide*, November, 1958.

THE CHRISTMAS DEER
(A Legend Retold)

(Grover-Jennings Productions, Inc., P. O. Box 303, Monterey, California) 14 minutes, 16mm, sound, color ($145, discounts on quantity purchases). Teacher's guide available.

Appraisal

People of all ages should enjoy the quiet beauty, the allegorical charm, the quaint music, the touching drama and the superb camera work in this Christmas-time film. Combining the mystical with the real, *The Christmas Deer* has appeal for groups of all ages. Its underlying theme — the joy of giving — is beautifully and convincingly developed. The symbolical deer as the Christmas spirit captivatingly contributes to the feeling of unreal reality. As the introductory narration observes, "This is a film for those who can believe more than what they see."

— Carolyn Guss

Students Bring History to Light

(*Continued from page 538*)

He had two children under 16. He may well have settled here to engage in expediting the traffic over the carry.

A small pewter spoon and two small two-tined iron forks, one very small brass button, a child's slate and a slate pencil would seem to show that there were children present. Then we have a couple of brass thimbles and one piece of jewelry that indicate the presence of a woman.

In 1792 a diary of a well known figure mentions taking refuge in a storm at this same spot and being given lodging and food by the "good widow X." We know then that Mr. X died sometime between 1790 and 1792. There is also strong support to the supposition that he was a veteran who came through the Battle of Oriskany. There is a vague tradition that points to an unmarked burial area nearby, but no one knows just where.

Documents say further that widow X stayed on at this location until 1805, when she returned to her family further down the Mohawk Valley. Abundant signs point to the fact that she was burned out. The appearance of so many items in one general spot, as coins and buttons and so many fragments of exotic blue and white china which must have been close to her heart, indicate that there was no time to save anything.

The students taking part in this project were curious and eager to find new things about this site and to make their own interpretations. There were hundreds of questions, most of which we felt could be answered. They were willing to put long hours of hard physical labor on this problem. One boy who was so handicapped that he has to use two crutches to move found an activity in which he could participate. He now thinks he would like to be a history teacher.

Not only have the participants in this project helped to make a real contribution to their community, but they have learned some aspects of scientific method of research, archaeological techniques, documentary investigation, statistical concepts, and to clarify existing interrelationships in the area of logic.

Much of this material has been used in the teaching of logic in the classroom, especially in the process of inductive reasoning. The actual artifacts were used.

Because of the magnitude of this project we have not only worked with school people, but have now extended it to include other interested groups and individuals. Both civilian and military personnel from Griffis Air Force Base have joined us in learning about our history through this project. A healthy spirit of cooperation has developed. Through history we have helped to open our doors to "strangers."

Through our historical society, plans are now being formulated to bring more of these elements together for a more thorough study of the whole Oneida Carry complex.

This is not a "one shot" affair to be forgotten when the "Year of History" is a matter of record. It is a project of continuing interest for years to come. Our history is for everybody.

When all the evidence is in and our newly organized Fort Stanwix Museum is ready to receive the public, we plan to use our materials to show pioneer life at the Great Carry with a diorama of this site and appropriate background materials in relation to our finds.

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New Equipment and Materials

For addresses of the sources supplying information on which these listings are based, refer to Directory of Listed Sources, page 569. For more information about any of the equipment announced here, use the enclosed reader service postcards.

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CAMERAS — Movie & TV

Five Closed-Circuit TV Cameras. One is a 4-lens turret viewfinder model, the others are basically self-adjusting automatic models, two of them with but a single control, the on-off switch. The cameras weigh 12 lb, measure 5½x7x11 inches, put a 1-volt video signal into a 75 ohm coaxial cable. Standard 16mm C-mount lenses. Remote control features (pan, tilt, iris, focus and zoom) can be added. Two monitors complete the line, 21" and 14". Mounting, optical and distribution accesories available. MOTOROLA
For more information circle 101 on coupon

CAMERAS — Still

Startech Closeup Camera uses 127 film for closeup and extreme closeup work; has built-in, parallax-corrected direct viewfinder, integral flash gun; operates at f64 for depth. Camera, complete with 1 roll of Ektochrome 127; 12 M2 flashbulbs; 2 penlight batteries; 2 portrait lenses; and easel $34.75; accessory lens to permit covering 36x36" field $4. KODAK.
For more information circle 102 on coupon

PROJECTORS — Still

Crestline 500 Slide Projector emphasizes "edit-while-showing" technique, in that 36 slides may be shown in any sequence, pause, skip, repeat at will, in any mounting and in any of the standard or low-priced trays. 500 watt; 4" f3.5 lens, American made. $69.95. BOHM.
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Keystone Tachette, a near-point, hand-operated Tachistoscope that shows the same materials (shorthand, typing, reading, number skills, and languages) used in the standard Keystone Tachistoscopic Services. Flash-speed is adjustable down to 1/100th second. KEYSTONE VIEW.
For more information circle 104 on coupon

SOUND EQUIPMENT — & Accessories

Ediola Price Cuts. Price reductions have been announced on the Ediola AO combination action viewer and optical sound reader; on the Model AM magnetic film and tape viewer combination, and on the AOM optical/magnetic-viewer combination. The prices of the double system Magnolias remain unchanged. S.O.S.
For more information circle 105 on coupon

Exclusively A-V Tape Recorder. New model AV-5 reportedly designed exclusively for the A-V field, features extra rugged case, giant tape storage compartment, built-in tape splicer, dynamic microphone with stand, complete instructions on case, push-button operation, wt. 20 lb., $229.95; stereo $259.95. PENTRON.
For more information circle 106 on coupon

Lavalier Microphone less than 4" in overall length. Plastic alloy diaphragm reportedly affords maximum protection against wind blast. Necktie clip and impedance. 70-12M cps. $59.50. AMMIKE.
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Four-track Stereo Recorder

Norelco Continental "400." Four-track stereo and playback tape recorder, records and plays back stereo and monaural through unit itself or through external hi-fi system. Inputs provided for recording from microphone, tuners and phonograph; mixing facilities for recording two signals simultaneously or in sequence; output monitoring jack; self-contained PA; 3-speed; stereo microphone; two 4-watt power amplifiers; 5 outputs; Model EL3536 $399.50. NAPHILIPS.
For more information circle 108 on coupon

Portable Stereo Record Players with companion remote speaker detachable from main unit for positioning up to 20 feet away. 4-speed. "Dante" model has inter-mix automatic changer, four 4" speakers; $99.50. "Stereo-teen," manual, two 4" speakers, $49.50. ZENITH.
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School Tape Recorder, housed in portable booth-type case in which the front doors open out to provide side panels of a booth, lined with polyurethane foam for deadening sound. Provides an independent listening-responding-recording station at any location. Records simultaneously from student mike and remote line, or from master track to lower track; plays back upper master and lower student recording, erases only lower. 3.75 or 7.5 ips. $349.50. CALIFONE.
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sd—sound
R—rent
b&w—black & white
col—color
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Int—Intermediate
JH—Junior High
SH—Senior High
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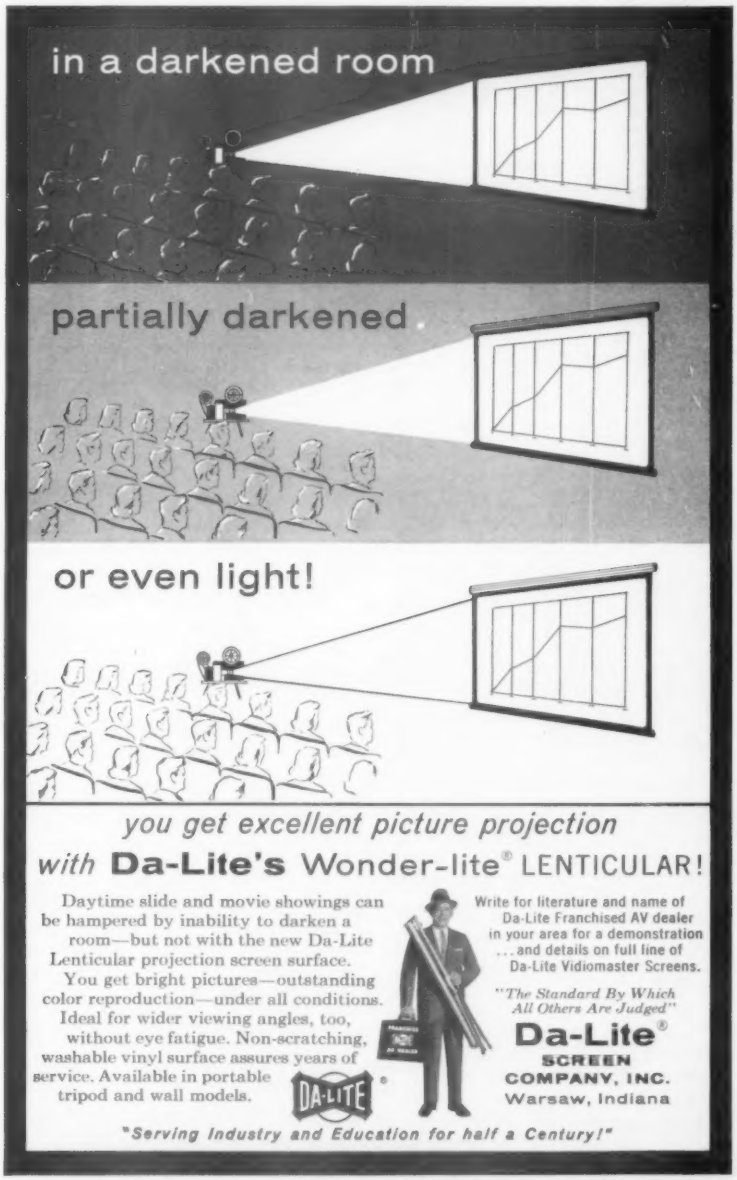
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Enrichment Materials Inc. (PD)
246 Fifth Ave., New York 1, N. Y.

Society for Visual Education (PD)
1345 Diversey Parkway, Chicago 14

Teaching Aids Service, Inc. (PD)
Lowell Ave. & Cherry Lane, Floral Park, N.Y.
31 Union Square West, New York 3

Visual Education Consultants, Inc. (PD)
VEC Weekly News Filmstrips,
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FILMSTRIP, SLIDE & OPAQUE PROJECTORS

Broadman Films (PD)
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DuKane Corporation (M)
St. Charles, Illinois

Graflex, Inc. (M)
(SVE Equipment)
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Viewlex, Incorporated (M)
35-01 Queens Blvd., Long Island City, N. Y

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Bell & Howell Co. (M)
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Eastman Kodak Company (M)
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Mogull's, Inc. (D)
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Victor Division, Kalart Co. (M)
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MAPS — Geographical, Historical

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S.O.S. Cinema Supply Corp. (MD)
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6331 Hollywood Blvd., Hollywood 28, Cal.

RECORDS

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Enrichment Materials Inc. (PD
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Folkways Records & Service Corp.
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Music Education Record Corp. (P)
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craftsmanship and a highly developed sense of humor. Titles: **Eskimo Carving; Haida Argillite Carvings.** Reviewed ESAVG 4/58 p194. SH C
For more information circle 128 on coupon

Indian Artist of the Southwest mp CONTEMPORARY 20min sd col $200 r$10. History of American Indian painting from stone painting to modern work of Joe Herrera. SH C A
For more information circle 129 on coupon

Let's Draw (Series) 3mp CORONET 8min sd b&w ea $45. Cartoonist Frank Webb shows it's easy. Titles: **Let's Draw a Baseball Player; Let's Draw a Puppy; Let's Draw Uncle Sam.** Pri.
For more information circle 130 on coupon

CINEMA ARTS

Adventures in Slidefilms sfs DUKANE col LP (stereo or monaural). Loan. The sound slidefilm medium is used effectively to tell about itself. Many uses are illustrated, educational, religious, commercial, industrial training. SH A
For more information circle 131 on coupon

Person To Person Communication mp McGOLD 14min col $200; b&w $100; rental (b&w only) $25 per week. Analyzes major barriers to interpersonal understanding and shows methods for overcoming them. For training directors, supervisors. Guide. A C
For more information circle 132 on coupon

The Story of the Slidestrip Projecturus sfs ADMASTER 63fr col LP 10" one side with audible signal, the other with Dukane inaudible automatic advance. $25. Mythical Po U, charged by his ancient Asiatic tribe with responsibility for Teaching, Training, Telling and Selling, captures a wild Projecturus, learns how to feed and work it, and passes along his wisdom to today's creators of sound filmstrips.
For more information circle 133 on coupon

BUSINESS EDUCATION

Prospects Set the Pace mp WESTINGHOUSE 12min b&w loan. Key to successful salesmanship is shown to be selling people, rather than merchandise. Five basic steps dramatized. SH — A
For more information circle 134 on coupon

EDUCATION

The Audio-Visual Training Series 3mp IFB col. Titles: **Facts About Film** (2nd Ed) 12½min $125; **Facts About Projection** (2nd Ed) 16½min $165; **The Audio-Visual Supervisor** 18½min $185. Last named is narrated by Walter A. Wittich, who also served as educational consultant. TT JH SH
For more information circle 135 on coupon

Joao's Life at School sfs UNCHC 15min col 75 fr LP $3; r$2.50. Student at Currie Institute, in Angola, West Africa, learns carpentry, plays soccer and grows under missionary influence. SH
For more information circle 136 on coupon

Learning Theory and Classroom Practice in Adult Education sfs UMICH 81fr with 3.75 ips tape, 28min, $7.25. An overview of several psychological theories on adult education as differentiated from child learning situations. Learning is shown to depend on motivation, capacity, previous experience, perception of relevant relationship, active search for meaning, feedback, and adjustment in the learning situation. By Jacob W. Getzels, University of Chicago. TT C
For more information circle 137 on coupon

New Dimensions in Language Teaching mp MONITOR 11min col loan. Language lab usages and techniques; blackboard diagrams demonstrate machine as mechanical tutor; filmed at Whittier College, Calif. TT C
For more information circle 138 on coupon

A School Bell Rings in Angola sfs UNCHC sd col LP 13½min r$2.50. An African pagan farmer does not believe in education for his son who, however is helped by the village school and in turn aids his family. Elem.
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The Vision-Strip Audio-Visual Classroom mp IFB 14min r$7.50. New classroom layout economizes on corridor, roof and wall costs. Low vision-strip preserves students' sense of contact with the outdoors; permits maximum control of light and ventilation. Intended as demonstration to school authorities, architects, AV personnel. TT A
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Visual Timing Film mp BIRDSELL 20 min sd b&w $55. Sound projector shows elapsed time on screen in seconds up to 20 minutes. Eliminates

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FEATURES

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Treasure of Sierra Madre UAA 126min. Apply. One of the all-time classics of cinema. Gold madness, greed, exposed as futility. Walter Huston, Humphrey Bogart.
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Yankee Doodle Dandy mp UAA 126min. Apply. James Cagney stars in Geo. M. Cohan biography. Family.
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GUIDANCE — Personal

Children's Story Filmstrips (series) 12fs IFB si col approx 49 fr ea $6. Personalized stories of life problems of children 10-14; one each on Friendliness, Cooperation, Cleanliness, Courtesy, Courage, Thrift, Reliability, Obedience, Helpfulness, Cheerfulness, Respect for Property, Loyalty. JH.
For more information circle 145 on coupon

HEALTH — SAFETY

Autopsy of an Auto Accident sfs WESTINGHOUSE 10min b&w LP 33.3 rpm. How poor lighting increases traffic hazards; seven chief causes of motor accidents. On same strip and record: **There's Danger in Darkness** 6min. Public safety aspects of street and community lighting. JH-A
For more information circle 146 on coupon

The Magic Camera sfs WESTINGHOUSE b&w 33.3rpm 12 min. Structure of the eye compared to that of a camera; how the rods and cones in the retina send messages to the brain; proper placement of reading lamps. JH-A **Two Precious Pilots** 12min covers same material on a slightly higher grade level. Supplementary material includes script and "Eyes Are Rationed" 16p five copies free to teacher. JH SH
For more information circle 147 on coupon

Menacing Shadows mp WESTINGHOUSE 20 min b&w loan. Importance of proper eating habits and diet including 7 basic food groups. Teacher's copy of book of menus, etc., free; extras @ 10c. JH-A
For more information circle 148 on coupon

What's Your Driver Eye-Q? mp AETNA 13 or 30 min versions b&w loan guide. Provides for active individual viewer participation as 15 different traffic situations, photographed from front seat of moving car, call for individual decisions. In the "public" version the correct answers are supplied by the film; in the classroom version they are confined to the 36p instructor's guide. SH A
For more information circle 149 on coupon

HOME ECONOMICS

The Dawn of Better Living mp WESTINGHOUSE 16min col loan. Walt Disney production showing evolution of the home from log cabin to present electrified existence. 40-page book contains full script and color pictures. Teacher's copy free, extra @ 10c. EI-A
For more information circle 150 on coupon

40 Billion Enemies mp WESTINGHOUSE 26min col loan; free copies of 6p leaflet on household refrigeration. Role of refrigeration explained first by science teacher then by home-ec instructor. JH-A
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V-Men mp WESTINGHOUSE 17min b&w loan. Importance of proper cooking methods in the preservation of essential vitamins is demonstrated in science lab tests. Folders (8p) "American Families Are Eating Their Way To Poor Health," free. SH-A
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Your Ticket To Better Buying mp WESTINGHOUSE 24min b&w loan. Consumer information on purchase and functioning of an electric range and a quick trip through the factory where it is made. JH-A
For more information circle 153 on coupon

INDUSTRIAL ARTS

Commutation of D-C Machines mp WESTINGHOUSE 24min b&w loan. Theory and maintenance of D-C motors and generators shown in live and animation photography. SH A
For more information circle 154 on coupon

Four Firsts of Motor Maintenance sfs WESTINGHOUSE b&w 33.3 rpm. The four chief causes of motor breakdown and prevention and repair. SH A
For more information circle 155 on coupon

Four-in-One Guy sfs WESTINGHOUSE b&w 33.3rpm 25min. Four functions of the successful serviceman, mechanic, actor, "doctor" and business man. JH-A
For more information circle 156 on coupon

Proper Care Means Longer Wear sfs WESTINGHOUSE b&w 33.3rpm 15 min. Care and home repair of electrical appliances, fuses, plugs, wiring. Correlates with "Electricity in the Home," 52pp, $1. SH A TT
For more information circle 157 on coupon

Ten Checks of Electrical Control Maintenance sfs WESTINGHOUSE b&w 33.3rpm 14min. Proper care of control apparatus in industrial applica-

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tions. For advanced classes in electricity. SH C
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LANGUAGES

Italian for Children rec OTTENHEIMER. Two 10" LP 12-unit aural-oral informal course with simple manual. Similar courses covering largely the same material are available in Spanish, German, French, Russian. Elem
For more information circle 160 on coupon

Learn German in Record Time rec COLREC 2—12" LP43 tourist and travel oriented lessons that parallel similar courses in **Spanish, French.** SH C A
For more information circle 161 on coupon

Spanish Instructo-Films Series) 7mp ALTS 12 to 21min ea sd b&w @ $60 to $105. Helpful drawings, lively music and oral commentary. Each film may be used as separate unit and has its own printed guide. Titles: **Pronunciation and Accent; Gender and Number I and II; Ser y Estar, verbs, adverbs; Pronombres Personales; Herbos Regulares I and II.**
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LITERATURE & DRAMA

Alice in Wonderland rec COLREC 12" LP. The Lewis Carroll classic set to music. Jane Powell plays the title role. Flip side: **Many Moons** and The **Eager Piano.** Pri Elem
For more information circle 162 on coupon

The Ancient Mariner rec CAEDMON 12" LP. Tale of the killing of the bird of good omen, and the punishment and penance of the offender. Read by Sir Ralph Richardson. Flip side: **The Poetry of Coleridge.** JH SH
For more information circle 163 on coupon

The Canterbury Tales 4rec SPOKEN WORD 12" LP. Chaucer translated into modern English by Nevell Coghill. Produced for BBC Third Program. SH C A
For more information circle 164 on coupon

MEDICAL & ALLIED SCIENCE

Hands We Trust mp ACS 30min loan. The education of a surgeon from his admission to medical school through postgraduate hospital training to final certification as a specialist and acceptance as a Fellow of the American College of Surgeons. SH C A
For more information circle 165 on coupon

Recognition of Leprosy mp CDCPHS 13 min col apply. Clinical manifestations as studied at the leprosarium at Carville, La. Taking and staining of skin scrapings to demonstrate the mycrobacterim; pathology of peripheral nerves; diagnostic procedures. Practicing physicians and medical students. Not for sale. Available on short term loan.
For more information circle 166 on coupon

MUSIC, General

Bulgaria, rec COLREC 12" LP. $4.98. Vol. 17 in the "World Library of Folk and Primitive Music" edited by Alan Lomax. 33 tunes collected by A. L. Lloyd, with detailed notes and bi-lingual text. C A
For more information circle 167 on coupon

The King and I rec DECCA 12" LP or (3) 7" 45rpm. Musical version of Margaret Landon's "Anna and the King of Siam," lead roles by Gertrude Lawrence and Yul Brynner. JH-A
For more information circle 168 on coupon

My Fair Lady rec COLREC 12" LP. Shaw's "Pygmalion" set to music. Sung by the original Broadway cast. SH C A
For more information circle 169 on coupon

Peter and the Wolf, Opus 67 rec COLREC 12" LP. The Philadelphia Orchestra, conducted by Eugene Ormondy. Narration by Cyril Ritchard. El
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MUSIC, Instrumental

Listen and Play the Piano 2rec CABOT (2) 10" LP. Introduction to elementary note reading and the immediate playing of several simple pieces. For individual instruction at home, and for discovering musical aptitude. Pupil must be able to read without difficulty. El JH
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PRIMARY GRADE Material

The Eager Piano rec COLREC 12" LP The biography of a piano from its purchase as a practice piano for a little boy through many adventures until its final service for first owner's son to practice on. K-Pri ■
For more information circle 172 on coupon

Pinocchio rec DISREC 12" LP. Carlo Collodi's classic tale of the puppet that came to life in a musical adaptation. Pri ■
For more information circle 173 on coupon

RELIGION & ETHICS

And Ye Also Are Witnesses sfs CONCORDIA 8min col 10" LP $10. Responsibility of teen agers for personal evangelism among schoolmates and friends. JH SH
For more information circle 174 on coupon

The Book of Acts 16sfs BROADMAN col 10" LP for each 2 fs. Four series, each of 4 fs and 2 rec @ $22.50. Indiv. fs. @ $5, with rec @ $7; 2 manuals included for each fs. Titles: **Christian Service Series** (4fs.); **Personal Witness Series** (4) How To Be **Saved Series** (4); **Triumphant Faith Series** (4).
For more information circle 175 on coupon

The Catholic Way 24sfs EYEGATE col LP. Per title (3fs and rec) $19. Set (24 fs and 8 rec) $130. Single records ea $4; filmstrips less rec (3 and 88p manual) $15. Titles: **Little St. Teresa; The Right Answer; A Story of the Boy Jesus; The Story of God's**

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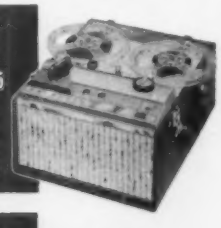

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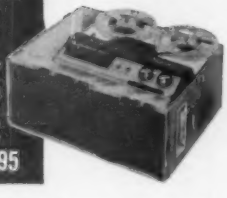

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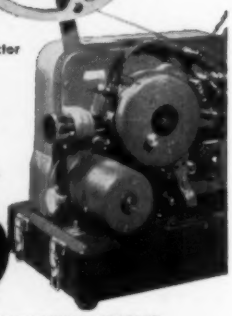

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Donald Duck in Sunday School (series) 7fs si col CATHEDRAL. **Tales of Jiminy Cricket** fables featuring Disney characters are used as basis for Bible solutions in Sunday School. Pri Jun
For more information circle 177 on coupon

The Family Altar mp CONCORDIA 30min b&w r $9. A father living temporarily with neighbors during the illness of his small daughter, is impressed with the effectiveness of family worship and institutes it at home. SH A
For more information circle 178 on coupon

Giving Thanks Always mp CONCORDIA 30min b&w r $9. Distracted by non-delivery of their Thanksgiving turkey, a family is brought back to the true significance of the day by a timely message from their pastor. El-A
For more information circle 179 on coupon

Teenage Witness mp FAMILY 30min b&w r $9. Two Christian high school students help classmate beat temptation to follow a flashy tempter into delinquency. SH A
For more information circle 180 on coupon

Town and Country Cousins fs UNCHC si 60fr col reading script $6 r$1.50. As rural children prepare for their harvest festival they come to better understanding with visiting youngsters from town. Elem.
For more information circle 181 on coupon

Tumba of Africa fs UNCHC 62fr si col $6 r $1.50; guide. African boy moves with his family when his father is mission-trained for a kind of work available only in a larger center. Role of the church in village and town life. Elem.
For more information circle 182 on coupon

The Unfinished Task mp CONCORDIA 30min b&w r $9. Wealthy father angered when son decides to become a missionary instead of entering family engineering firm. Designed to win support for stewardship and mission programs and to encourage young people to enter full-time Christian service. SH A
For more information circle 183 on coupon

The World of Man: Religions rec FOLKWAYS 10" LP. Second in series of recordings that aim at better understanding among the world's peoples. Similarities and differences in religions explored through the music of many faiths. SH C A ■
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SCIENCE, Biology & Physiology

Tide Pool Marine Life 12 flat pictures 11x14" in color, captioned, text on back, rounded corners and pinhole punched, FILMSCOPE $11.95 discounts to schools, etc. Titles: Shoreline, Sea Anemone, Brittle Star, Knobby Starfish, Sea Urchin, Hermit Crab, Shore Crab, Cancer Crab, Goose Barnacles and Mussels, Fixed Snail Tubes, Chitons, Sea Hare.
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SCIENCE, General

Basic Primary Science 6fs SVE si col set (6 boxed) $24.30 indiv $4.50. **Finding Out How Plants Grow; . . . How Animal Babies Grow; . . . How You Grow; . . . About Things Around You; . . . About Land, Air and Water; . . . About the Sky.** Pri Gr 1&II
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Crystals — An Introduction mp BELTEL 25min col loan. Demonstrates the orderly arrangement of atoms in the crystalline state and relation of this arrangement to the physical properties of the substances. For students of electrical engineering and some courses in physics, chemistry and metallurgy. C
For more information circle 187 on coupon

The Formation of Ferromagnetic Domains sfs BELTEL 45min 132fr 2LP. Discusses the physical principles of domain formation with particular emphasis on the energies involved in the process. C
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SCIENCE, Physics & Chemistry

Brattain On Semiconductor Physics mo BELTEL 30min b&w loan. Nobel Laureate Walter H. Brattain demonstrates thermal emf, photo emf, and rectification, and introduces a simple mathematical model which describes the observed properties of semiconductors. The history, impact and new semiconductor phenomena are also briefly treated. C
For more information circle 189 on coupon

Electromagnetic Spectrum chart WESTINGHOUSE 40x30½", 8 color on vellum ready for hanging, $2. Spectra shown: Photographic; X-ray; Radio; Induction Heating; Ultraviolet; Infrared. Their range, relationship, definitions, formulas. Glossary. SH C
For more information circle 190 on coupon

The Electron Tube chart WESTINGHOUSE 25x36" printed in 8 colors on heavy linen paper, reinforced for hanging. Basic information on operation, types and applications. SH C
For more information circle 191 on coupon

The Naval Research Laboratory Reactor mp UWF 21min col $123.61. Construction, operation and use. SH C
For more information circle 192 on coupon

The Science of Sound rec BELTEL 90min 2 LP microgroove. Demonstrates 19 different acoustic phenomena with narration written by Bell Telephone Laboratory scientists. SH C
For more information circle 193 on coupon

The Story of the Universe (series) 6fs FILMSED si col set (6) $36; indiv $7.50. Unit 1: **Introduction to Modern Astronomy and the Age of Space.** Reviewed ESAVG 6/59. SH
For more information circle 194 on coupon

SOCIAL STUDIES History & Anthropology

The Days of '49 rec FOLKWAYS 12" LP 16 songs of the Gold Rush days, sung by Logan English. Most are taken from the paper-bound songbooks published in California before 1860. Many are parodies sung to tunes then popular. SH C A ■
For more information circle 195 on coupon

George Washington: Frontier Colonel rec ENRICHMENT 12" LP. Summary of early life, emphasizing his 1753 journey to the Ohio Valley; service with Braddock. Flip side: **The Santa Fe Trail.** Elem JH ■
For more information circle 196 on coupon

Inauguration Addresses rec SPOKEN WORD 12" LP Franklin D. Roosevelt, III and IV terms; Harry S. Truman beginning his first elected term. JH SH C A ■
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Thomas Jefferson: Father of Democracy rec ENRICHMENT 12" LP. As member of the Virginia House of Burgesses, writer of Declaration of Independence, services during Revolution, governor of Virginia, President. Reverse: **The Vikings.** JH ■
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The Vikings rec ENRICHMENT 12" LP. Explorations of Eric the Red and Lief the Lucky westward from Iceland. Reverse: **Thomas Jefferson: Father of Democracy.** El JH ■
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Winston Churchill rec COLREC 12" LP Selected portions of numerous notable speeches. From Edward R. Murrow's "I Can Hear It Now." SH C A ■
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SOCIAL PROBLEMS

The Biggest Bridge in Action mp MUTUAL 27½min col loan. The "bridge" is built over the chasm of misunderstanding and reluctance to employ the physically handicapped, in the mythical town of Action, Nebraska. A young engineer, crippled by polio, finds that while he has learned to face the world despite his handicap, his local world was not quite ready to face him. The "hero" does not have to act the part, it is his own life situation. JH-A
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A New Day for African Women fs LITERACY col $5 r$2.50. How reading helps women select the best from the old and the new as they face radical changes in their lives in both village and town. SH C A
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Village Reborn fs LITERACY col $5 r$2.50. All-village literacy campaign in Egypt. A supplementary book (25c) tells the effect of the campaign on the life of the same village. SH-A
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Write:
TEACHING FILM CUSTODIANS
25 West 43rd Street New York City 36, N. Y.

Audio-Visual Aids Service, 1959-60 catalog. 40pp. Free. GSA
For more information circle 206 on coupon

Developing a Club Educational Plan. Guidance for camera clubs. No. 9 in series. PSA
For more information circle 207 on coupon

Electronic Parts Catalog for 1960. Free. 232p; lists over 40,000 items. ALLIED
For more information circle 208 on coupon

Heathkit Catalog, 28pp, describes a large number of do-it-yourself radio and other electric construction kits. Free. HEATHKIT
For more information circle 209 on coupon

History Films 1959-60. Another in the series of specialized subject area catalogs. 71pp. Free. UNILL.
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Photocopy Halftone Paper and Process. Free brochure describing new type paper for making inexpensive copies of photographs. NORD
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Religious Filmstrip Catalog. Also Catholic supplement. Free. EYEGATE.
For more information circle 212 on coupon

Sound Motion Pictures and Slide Films for School Use. Illustrated catalog. 21 pp. Free. Primarily science, safety, lighting. Also describes low-cost wall charts on electronics, nuclear physics, steam turbines. WESTINGHOUSE.
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A Treasure Chest of Audio-Visual Ideas, free to teachers and administrators. Replaces the long popular "Blueprint for an Audio-Visual Program." VICTOR ANIMATOGRAPH
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TV and Film Production Data Book, Ernest M. Pittaro. 448pp, 4½x7", 132 photos and drawings, 128 tables. $6.95. MORGAN.
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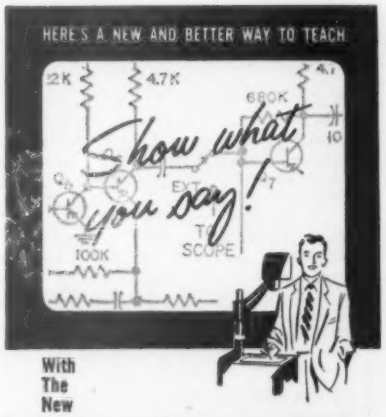

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HELPFUL BOOKS

THE AUDIO-VISUAL EQUIPMENT MANUAL. By James D. Finn. Published under the general editorship of Edgar Dale. 384 pp. 1400 illustrations. Henry Holt and Co., 383 Madison Ave., New York 17, N. Y. $15.00.

AUDIO-VISUAL MATERIALS: THEIR NATURE AND USE. Revised Edition. By Walter Arno Wittich and Charles F. Schuller. 570 pp. 249 Illustrations, 14 Color Plates. Harper & Brothers, 49 E. 33rd St., New York 16, N.Y. 1957. $6.50.

AUDIO-VISUAL METHODS IN TEACHING: REVISED AND ENLARGED. By Edgar Dale. 544 pp. Illustrated; and with 49 full-color plates. Henry Holt and Co., 383 Madison Ave., New York 17, N. Y. $7.75.

EDUCATORS GUIDE TO FREE SLIDEFILMS. Compiled and Edited by Mary Foley Horkheimer and John W. Diffor. Eleventh Annual Edition, 1959. Educators Progress Service, Dept. AVG, Randolph, Wis. $6.00.

EDUCATORS GUIDE TO FREE TAPES, SCRIPTS, AND TRANSCRIPTIONS. Compiled and Edited by Walter A. Wittich, Ph.D., and Gertie Hanson Halsted, M. A. Fifth Annual Edition, 1959. Educators Progress Service, Dept. AVG, Randolph, Wis. $5.75.

EDUCATORS GUIDE TO FREE FILMS. Compiled and Edited by Mary Foley Horkheimer and John W. Diffor. Educational Consultant, John Guy Fowlkes. 19th Annual Edition, 1959. Educators Progress Service, Dept. AVG, Randolph, Wis. $7.00.

MITCHELL'S MANUAL OF PRACTICAL PROJECTION. 450 pp. Illustrated and cross-indexed. Covers every aspect of motion picture projection. Material presented in easily understood language — not too technical, yet technically accurate. Most complete and practical handbook for projectionists ever published. International Projectionist Pub. Co., 19 West 44 Street, New York 36, N. Y. $6.00.

STANDARDS OF PHOTOPLAY APPRECIATION. A Course of Study in Photoplay Appreciation. By William Lewin and Alexander Frazier. Illustrated. Educational & Recreational Guides, Inc., 10 Brainerd Road, Summit, New Jersey. $2.95 on approval.

A WINDOW TO THE CHILD'S MIND — Alpark's New Educational Handbook by Dorothy R. Luke, 268 pp. The first authentic analysis of Helen Parkhurst's recorded interviews with children. An indispensable guide for teachers. 1955 Alpark Educational Records, Inc., 40 East 88th Street, New York 28, N. Y.

TRADE NEWS

Transistor radio explains exhibit.

Peripatetic Radio Lecture

As a visitor to an art gallery or other exhibit moves from place to place, a 4-ounce transistor radio hung around his neck explains what he sees. The message, either taped or oral, comes from a private transmitter using different channels for the various parts of the exhibit so the visitor's ½-ounce headphones carry only information that is pertinent to his location. This information comes from an Eastman affiliate that supplies the raw material for the radio's plastic housing. The system is produced by McIntosh LecTour, Inc., 1906 M. St., NW, Washington 6, D.C.

Expanded Screen Market

A rear-projection screen makes up practically one whole wall in the Command Conference Room at Headquarters Eighth Air Force, Westover, Mass. Principal use is to permit simultaneous showing of two or more still or motion pictures to contrast old and new phases of subject under consideration. The 155 x 68 inch Polacoat conference screen is made of quarter-inch-thick plastic which effectively insulates the conference room against all sound from the projectors.

NAVA Board Meets

The Board of Directors of the National Audiovisual Association is to be held October 16-17; the Executive Committee meeting the previous day. Board members J. W. Kintner and Earl Harpster were elected to serve with the officers on the Executive Committee.

The 1960 convention is to be held at the Morrison Hotel, Chicago, August 6 through 9, or earlier if possible. The annual Western Conference is to be held at Colorado Springs, January 14-17, 1960. The "southern" midwinter meeting is to be held in the vicinity of Washington, D. C.

One of the items on the agenda of the October board meeting will be a report of a committee now surveying possible convention sites, dates, prices, etc. for the 1961 and 1962 conventions.

Membership dues are to be raised by an approximate 40 per cent. The annual meeting adopted congratulatory resolutions honoring Bruce Mahan, Prentice C. Ford and Alfred E. Devereaux, the latter on his completion of 45 years in the A-V field.

J. K. Lilley, Jack McCracken, Howard Kalbfus and Robert Maybrier were elected to a 3-year term on the Board of Governors of the National Institute for Audio-Visual Selling.

Ralke Moves

After 23 years in a downtown Los Angeles location, "Bill" Ralke has moved to his own 3500 sq. ft. building, at 849 Highland Ave. Ralke helped engineer the many motion picture installations at Disneyland Park, and the Circarama 11-projector combination that served well at the U. S. exhibit at the Brussels Worlds Fair and subsequently at the American Exhibit in Moscow.

Trans-Lux Screens to Moscow

The American Exhibit in Moscow is showing its Russian visitors what makes America "tick" on 21 large seamless rear-projection screens custom made on U. S. government contract by the Stewart - Trans-Lux Corp., Torrance, Calif. Seven of the screens, each measuring 30 feet wide and 20 feet high, are used in the huge geodesic dome building, where seven different pictures are projected simultaneously. Eleven screens are used to show the 360-degree Walt Disney "Circarama." Originally adapted for Hollywood studio background process photography, the seamless plastic screens can now be made in any size up to 86x46 feet.

Quits Selling

The Mental Health Materials Center, 104 E. 25th St., New York 19, is discontinuing the sale of films in order, according to its announcement, to concentrate on evaluation of films for subscribers. Its preview and new stock prints are available for purchase at reduced prices.

Films at Nurses' Convention

A total of 21 motion pictures shown over a period of four days were a feature of the recent bi-ennial national meeting of the American Nurses Association and the National League for Nursing. Professionally qualified commentators were assigned in advance to each of the films, their names were listed in the official program. The daily themes, in sequence, included: Social Psychology; Clinical Areas; Child, Patient and Nurse Relationships; Nursing in National Defense; and Hospital Nursing.

Coronet's Chemistry "Filmset"

Coronet Films announces seven new films to complete an 18-subject set covering the basic units of this subject as taught in most high schools. Purchasers of this set of films receive as a free bonus a cabinet to house them, a manual to guide teachers in their use and extra copies of the teachers' guides.

Atomic sub is provided with Special Screens.

Movies on New Atomic Sub

Movies and slides will be shown for both entertainment and instructional purposes on specially designed Radiant Wall Screens installed in the new atomic submarine "George Washington," the first nuclear-powered craft designed to fire the Polaris missile from submerged positions at sea.

Orr-Ampex Merger

Orr Industries, Inc., manufacturers of "Irish" tape, has become a division of the Ampex Corporation. It will continue to operate at Opelika, Alabama, with the same facilities, management and employees.

People in the News

David Wisner, formerly manager of the Calvin Company training films division, has joined Delta Productions, Inc., as vice-president in charge of production. Wisner's background includes work for the Moody Institute of Science and Worldwide (Billy Graham) Pictures, California.

Eric H. Kiehl, director of research and production planning for Church-Craft Pictures, has been awarded the degree of Doctor of Theology at Concordia Theological Seminary, St. Louis.

Carl Cannon is the new director of program promotion and television station relations for the Broadcasting and Film Commission of the National Council of Churches. He will deal with 533 TV and radio stations carrying BFC programs.

Da-Lite Screen Company announces the appointment of Don Browne as Sales Promotion Manager. Don, 28, has recently been with Kaiser Aluminum in Chicago, and prior to that with D'Arcy Advertising.

Joseph Bower, formerly district manager for Encyclopaedia Britannica Films in Pennsylvania, replaces Walt Renner, in southern Illinois. The latter has been reassigned to the Florida district.

A. Philip Sherburne is the new general sales manager of Chartpak, Inc., with Russell B. Pierce as assistant sales manager and in charge of sales promotion.

John Ercole, ace wartime cinematographer, has joined Transfilm, Inc., as director of photography.

Walter Lowendahl, a Transfilm Inc. executive for 17 years, has joined Wilding, Inc., as an executive producer and will head up the Wilding eastern division in New York.

4-Track Stereo

The Magnetic Recording Industry has adopted 4-track 7½ ips stereo tape as standard, according to Ampex Audio, and several hundred new pre-recorded releases are expected to be on the market this fall priced at an average of $7.95. The Ampex 4-track conversion kit at $50 includes installation at authorized service centers. The Model 900 Ampex already plays the new 4-track as well as 2-track recordings.

Universities Combine Film Service

The University of Michigan and Michigan State University may be rivals on the football field, but their audiovisual centers work together. A joint film catalog makes some 4,500 motion pictures available to schools throughout the state, and films momentarily unavailable from one institution are to be furnished whenever possible by the other. A similar arrangement prevailed, if memory serves, some 35 years ago between the universities of Kansas and Colorado.

Windowless Schools

The United States Air Force Academy at Colorado Springs is said to blaze a trail to the windowless schools of the future, a concept touched on by editor Paul Reed in this magazine several years ago. Architects claim to have achieved a "balance in psychological effect" by lighting classrooms and study areas exclusively by artificial light, to achieve "cells of Concentration." Corridors and non-study areas are along the outer walls, expansively glassed to bring in the outdoors.

Bell Labs Make College Films

On the advice of educators, the Bell Telephone Laboratories have set up a Science Film Production Unit for the primary purpose of making audiovisuals that college instructors can use to complement their regular lectures in science and engineering. Three motion pictures, two sound filmstrips and a 90-minute record album have already been completed. (See listings in New Materials)

NAVA Exhibitors Committee

This committee, which acts as a liaison group with the NAVA Board of Directors, has elected V. C. Doehring, of the Jam Handy organization as its chairman. Newly elected members for a two-year term are Paul G. Kiehl, Churchcraft Pictures; Robert Maybreier, Da-Lite Screen Co. and Paul Ruedemann, Technical Service, Inc. Holdover members are Martin F. Myers, Charles Beseler Co., and Ben O'Dell, Cathedral Films.

Directory of Sources for Materials

Listed on Page 560-567

ACS—American College of Surgeons, 40 E. Erie St., Chicago 11, Ill.

ADMASTER Prints, Inc., 1168 Sixth Ave., New York 36, N.Y.

AETNA Life Affiliated Companies, Public Education Dept., 151 Farmington Ave., Hartford 15.

ALLIED Radio Corp., 100 N. Western Ave., Chicago 80, Ill.

ALTS — Audiovision Language Teaching Service, 100 Church St., New York 7, N. Y.

AMMIKE — American Microphone Mfg. Co., Division of GC—Textron, 412 S. Wyman St., Rockford, Ill.

AUDIOTRONICS Corporation, 11057 Weddington St., North Hollywood, Calif.

BELTEL—Bell Telephone Laboratories, Consult local telephone company.

BIRDSELL Electronics Co., 2901 Glendora Ave., Cincinnati 19, Ohio

BOHM—H. A. Bohm & Co., 4761 W. Touhy Ave., Chicago, Ill.

BROADMAN Press, 127 Ninth Ave., N., Nashville 3.

CABOT Records, 4805 Nelson Ave., Baltimore 15, Md.

CAEDMON Sales Corp., 277 Fifth Ave., New York 16.

CALIFONE Corp., 1041 N. Sycamore Ave., Hollywood 38.

CATHEDRAL Films Inc., 140 N. Hollywood Way, Burbank, Calif.

CDCPHS—Communicable Disease Center, Public Health Service, P.O. Box 185, Chamblee, Ga.

COFFEY, Jack C., Co., 710 17th St., North Chicago, Illinois.

COLREC: Columbia Records, 799 Seventh Ave., New York 19.

CONCORDIA Films, 3558 S. Jefferson Ave., St. Louis 18.

CONTEMPORARY Films Inc., 267 W. 25th St., New York 1.

CORONET Films, 65 E. South Water St., Chicago 1.

DECCA Records, 50 W. 57 St., New York 19.

DISREC Records, 2400 W. Alameda Ave., Burbank, Calif.

DUKANE Corp., St. Charles, Ill.

EDMUND Scientific Co., Barrington, N. J.

EDUFS—Education Filmstrips, Box 289, Huntsville, Texas.

ENRICHMENT Teaching Materials, 246 Fifth Ave., New York 1.

EXCELLO—Ex-Cell-O Corp., Pure-Pak Division, 1200 Oakman Blvd., Detroit 32, Mich.

EYEGATE House Inc., 146-01 Archer Ave., Jamaica 35, N. Y.

FAMILY Films Inc., 5823 Santa Monica Blvd., Hollywood 38.

FILMSCOPE ,Inc., Box 397, Sierra Madre, Calif.

FILMSED—Films for Education, 1066 Chapel St., New Haven, Conn.

FOLKWAYS Records and Service Corp., 117 W. 46th St., New York 36.

GSA—Girl Scouts of the U.S.A., 155 E. 44th St., New York 17, N. Y.

HEATHKIT—Heath Company, Benton Harbor, Mich.

IFB: International Film Bureau Inc., 57 E. Jackson Blvd., Chicago 4.

KEYSTONE VIEW Company, Meadville, Pa.

KODAK—See local dealer.

LITERACY—Committee on World Literacy and Christian Literature, 156 Fifth Ave., New York 10, N. Y.

LLTR—L & L T-Rule Sales, Inc., 5518 Excelsior Blvd., Minneapolis 16, Minn.

McGOLD—McMurray Gold Productions, 139 S. Beverly Drive, Room 333, Beverly Hills, Calif.

MONITOR Language Laboratories, Inc., 1818 M. St., Washington 6, D. C.

MORGAN and Morgan, Publishers, 101 Park Ave., New York 17, N. Y.

MOTOROLA, Inc., 4501 W. Augusta Blvd., Chicago 51 ,Ill.

MRI — Magnetic Recording Industries, 126 Fifth Ave., New York 11, N. Y.

MUTUAL of Omaha, Director of Rehabilitation, 33rd and Farnam Streets, Omaha, Nebr.

NAPHILIPS—North American Philips Co., 230 Duffy Ave., Hicksville, Long Island, N. Y.

NCRS—National Camera Repair School, Box 174 HI, Englewood, Colo.

NORD Photocopy Business & Equipment Corp., 300 Denton Ave., New Hyde Park, L. I., N. Y.

OSU—Ohio State University, Department of Photography, Columbus 10.

OTTENHEIMER Publishers, Batlimore, Md., 4805 Nelson Ave., Baltimore 15, Md.

OZALID Division, General Aniline and Film Corporation, 17 Corliss Lane, Johnson City, N. Y.

PENTRON, Inc., 788 S. Tripp Ave., Chicago 24, Ill.

PSA—Photographic Society of America, 3946 N. Lowell Ave., Chicago 41, Ill.

S.O.S. Cinema Supply Corp., 602 W. 52nd St., New York 19, N. Y.

SPOKEN WORD, The, 10 E. 39th St., New York 16, N. Y.

STANBOW Productions, Inc., Valhalla, N. Y.

SVE: Society for Visual Education Inc., 1345 W. Diversey Pkwy., Chicago 14.

UAA—United Artists Associates, Inc., 247 Park Avenue, New York City.

UMICH—University of Michigan, A-V Education Center, 4028 Administration Bldg., Ann Arbor, Mich.

UNCHC—United Church of Christ, Bureau of Audio Visuals, 1720 Choteau Ave., St. Louis 3 ,Mo.

UNILL—University of Illinois, Audio-Visual Aids Service, Division of University Extension, Champaign, Ill.

USDA: U. S. Dept. of Agriculture, Motion Picture Section, Washington 25.

UWF: United World Films, 1445 Park Ave., New York 29.

VEC: Visual Education Consultants Inc., 2066 Helena St., Madison 4, Wis.

VICTOR Animatograph Corp., Division of The Kalart Co., Inc., Plainville, Conn.

WESTINGHOUSE Electric Corporation, School Service, 306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.

ZENITH Radio Corporation, 6001 W. Dickens Ave., Chicago 39, Ill.

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(4) **Audio Cardalog—record reviews on cards, page 547**

(5) **Audio-Master Corp.—record and transcription players, page 564**

(6) **Audiotronics Corp. — ATC300VR record player, page 548**

(7) **Bailey Films, Inc.—"Grandmother Makes Bread," "The Miller Grinds Wheat," films, page 556**

(8) **Beseler, Charles, Co. — Vu-Graph overhead projector, page 567**

(9) **Burke & James, 16-35mm Super-Speed lenses, page 564**

(10) **Camera Mart—Ecco No. 1500 film cleaner, page 514**

(11) **Cathedral Filmstrips—"Tales of Jiminy Cricket," filmstrip series, page 552**

(12) **Children's Press—science filmstrips, page 551**

(13) **Contemporary Films, Inc.—"Music for Children," film, page 567**

(14) **Coronet Films—social studies films, page 555**

(15) **Da-Lite Screen Co.—projection screens, page 561**

(16) **Delta Film Productions, Inc.—"Discovering Solids," film series, page 557**

(17) **Dowling, Pat, Pictures—"The Pioneer Burro," film, page 565**

(18) **Duncan, William Ireland, Films—slides, page 566**

(19) **Eastman Kodak Co.—Pageant 16mm sound projectors, page 525**

(20) **Educational & Recreational Guides, Inc. —photoplay filmstrips and study guides, page 512**

(21) **Encyclopaedia Britannica Films — educational films, pages 539-542**

(22) **Family Films—Christmas films, page 553**

(23) **Fiberbilt Case Co.—film shipping cases, page 514**

(24) **Folkways Records—"The Many-Colored Paper," film, page 563**

(25) **Graflex, Inc. — audiovisual equipment, page 515**

(26) **Grover-Jennings Productions — "The Christmas Deer," film, page 558**

(27) **Harwald Company, The—Movie-Mite 16mm sound projector, page 566**

(28) **Hunter Douglas Co. — "Flexalum AV blinds, page 513**

(29) **Indiana University—N.E.T. film service, page 566**

(30) **Keystone View Co.—Keystone Standard Overhead projector, page 520**

(31) **Levolor Lorentzen Co.—Levolor AV blinds, page 519**

(32) **Long Filmslide Service—educational filmstrips, page 550**

(34) **Moody Institute of Science—"Spider Engineers," film, page 556**

(35) **North American Philips Co., Inc.—Norelco Continental tape recorder, page 546**

(36) **Orr Industries, Inc.—Irish Ferrosheen reconditioning tape, page 547**

(37) **Ozalid Division (general Aniline & Film Corp.)—"They See What You Mean," book on overhead projectors, inside front cover**

(38) **Peerless Film Processing Co.—film reconditioning, page 564**

(39) **Philco Corp.—all-transistor TV camera, page 545**

(40) **Plastic Products—LuXout light control draperies, page 559**

(41) **Radio Corp. of America—RCA electronic aids, page 516-517**

(42) **Radio-Mat Slide Co.—slide mats, page 550**

(43) **Rapid Film Technique—film rejuvenation, page 550**

(44) **Scripture Press—religious visual aids, page 552**

(45) **Strong Electric Corp.—Strong Universal Arc slide projector, page 522**

(46) **Teaching Film Custodians—educational films, page 567**

(47) **Technical Services, Inc.—Duolite projectors, inside back cover.**

(48) **Tecnifax Corp.—overhead projector, page 521**

(49) **Telectrosonic Corp. — tape recorders, page 565**

(50) **Vacuumate Corp.—film protective process, page 563**

(51) **Victor Animatograph Corp. — Victor-Soundview slidefilm equipment, back cover**

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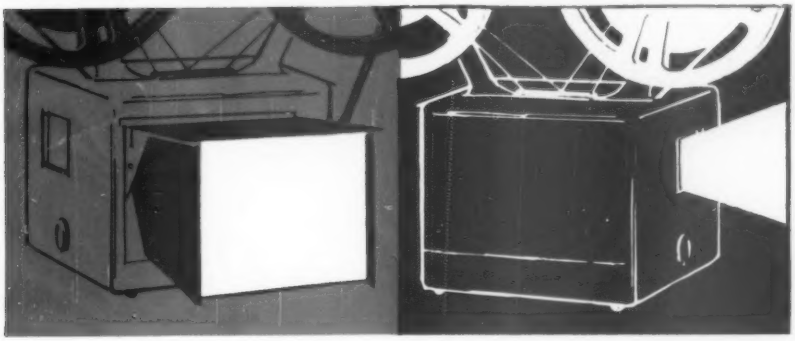

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PROGRAM OF A "TEACHING TOOL" DAY

(16mm films in a K6 School)

7 AM: Building engineer views film on ways to boost economy in heating plant operation.

8 AM: Teacher previews Social Studies film for 1 PM 5th Grade.

9 AM: Safety Film shown to all pupils. Auditorium.

10 AM: Science Film used in 6th Grade Classroom. Normal light permits students to take notes and refer to study questions on blackboard.

11 AM: Safety Film (See 9 AM) shown in kindergarten without sound. The teacher supplies commentary.

12: Superintendent uses film to explain School Reading Program at a Service Club luncheon.

1 PM: Social Studies Film (reviewed by Teacher at 8 AM) used in 5th Grade Classroom as part of the introduction to the study of Mexico. Auditorium.

2 PM: Animal Life Film used for science study and language experience in 2nd Grade Classroom.

3 PM: Film on Fractions used again—this time for a small group of students requiring extra help.

4 PM: Science Club uses film on Astronomy to expand interest of gifted children. Classroom

5 PM: Study of Team-in-Action Film taken at last basketball game. Corner of Gymnasium.

6 PM: At dinner meeting, Audio Visual Coordinators preview films for possible purchase.

7 PM: Teacher reruns History Film to prepare quiz for class review screening next day.

8 PM: Architects show films on new schools to Building Committee, plus interested community members. Auditorium.

9 PM Adult Education class in dog handling views Field Trial Film. Gymnasium.

Duolite's TV-type Projection was used eight times.

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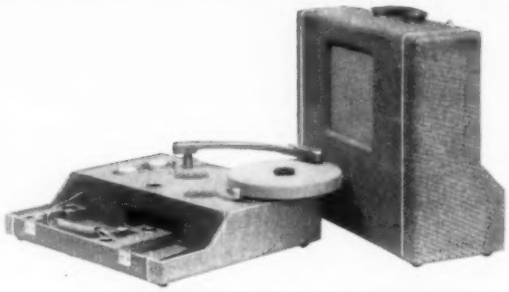
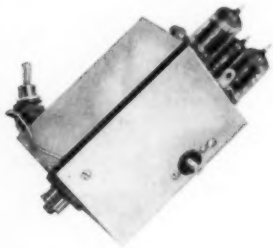
VICTOR-SOUNDVIEW

Start with remote control projector for silent programs . . .



Add phono for sound programs with manual film advance . . .



Add high or low frequency controller to phono . . .

Final result is equipment for fully automatic programming

America's Most Versatile Slidefilm Equipment Makes Programs Grow Best

Your choice of slidefilm equipment has an important bearing on the successful growth of your program. Victor-Soundview actually encourages program growth because it is the *only* equipment that permits you to start with a basic projector and build up to fully automatic sound programs by adding a component at a time — that allows separate use of projector and phonograph — that features a detachable speaker which may be placed with the screen where it belongs — that offers a 500-watt model for 2 x 2 and bantam slides as well as filmstrip.

You get years of dependable service from Victor-Soundview equipment because it is precision-built by Kalart to the same rigid specifications as famous Victor 16mm sound projectors. No other slidefilm equipment offers higher quality, more advanced features or greater versatility for program growth than Victor-Soundview. *Compare and see for yourself.*

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